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AVIARIES BIRD-ROOMS and CAGES

BY
H. NORMAN

A PRACTICAL GUIDE
TO THEIR CONSTRUCTION
AND FURNISHING.

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FULLY ILLUSTRATED.

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The Bird Room of Mr. S. Denny Hunt (King's Lynn).

AVIARIES, BIRD-ROOMS & CAGES

THEIR CONSTRUCTION AND FURNISHING

By
H. NORMAN

⁂

WITH THE FOLLOWING APPENDICES:

Hints on Cage Making.

By W. LASKEY.

Foreign Bird-keeping in Aviaries.

By WESLEY T. PAGE, F.Z.S., etc.

FULLY ILLUSTRATED.

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INTRODUCTION

To the bird-keeper, the term Aviary conveys the idea of some outside building erected for the purpose of keeping birds in confinement, yet in a condition as near to a state of nature as possible. To the Canary breeder also such a building is of considerable use. He will most likely have filled his room with pairs of breeding birds, so that the young ones have to be contented with limited space. Naturally it is the most promising of these that he wishes to take care of, and what to do with the remainder is a puzzle. If he has an odd corner in the garden, and is prepared to spend a few shillings buying the necessary materials, an outside aviary will be just the thing for him—the " weeds " and doubtful birds will be happy and contented in a six-feet flight, and as like as not grow so lusty and strong under such natural conditions, that he will be astonished later on by their excellence.

Another lover of birds maybe cares nothing for the delights of mating and breeding stock, but makes the beautiful British Birds his hobby. His cages may already be full to overflowing, but try how he will, he cannot possibly resist the temptation of purchasing that bold-looking, beautifully-pencilled Linnet, or maybe gorgeously-coloured Bullie. To such a one an aviary is practically indispensable. His pet birds will be delighted with the opportunity for stretching their wings, and a marked improvement in health and vigour will be found in all its inmates.

During many years of bird-keeping I have constantly had to seek for hints on the planning and constructing of buildings suitable for the purpose of housing birds. Many have been made, many rebuilt and improved upon, and some have proved rather costly experiments. Therefore I feel confident that these few chapters on that subject will be found useful by many likely to have the usual difficulties to contend with. I do not profess to possess any technical skill in this direction beyond an average aptitude for using ordinary tools. What I shall describe are methods that have actually been used by myself and others, and that are still in use. Some of the methods of construction may not equal the standards taught in the present-day technical schools, but these same methods have been found quite good enough for their purpose, and have been adopted in preference to others on account of their simplicity and strength—two very desirable qualities from the average man's point of view.

CHAPTER I.

One would think that by enclosing a given corner of one's garden with wire netting and roofing it in, this would be all that is required to make an outside place fit to hold one's pets; in a sense this is so, but experience teaches us that many little items are necessary to make our building a source of pleasure and convenience to ourselves, and of comfort to its inmates.

The tools required for Aviary construction will be found in most homes, and the greater part of the materials can be bought ready prepared from any wood yard, or builders' merchant. The prices I give are only approximate, and they vary in different localities, but they will be near enough to enable one to get a rough idea as to the cost of the proposed building. In these days the materials are practically only a secondary consideration; it is the price of labour that makes a building so expensive, but most bird-keepers are handy with tools, and thus can considerably reduce the cost, by executing the work themselves.

The Situation Considered

Having decided that an outside aviary is to be built, naturally the first thing to be considered is the situation. In a matter of this kind it is impossible to lay down any hard and fast rule, but a few hints will probably be acceptable. To begin with, a certain amount of sunshine is essential to the well-being of the inmates, for birds by nature are full of sunshine and joy—no doubt they will sing and be seemingly happy in cages hung in the shade; but it should be our aim to let them have as much of the health-giving sunshine as is good for them. The morning sun is to be preferred to that of the afternoon. In the early hours, birds are bright and cheerful, and are also on the move just before roosting; but just after midday they are comparatively quiet, and need rest and shade so that it is as well to afford them the opportunity of this during the afternoon if it can possibly be managed.

The Ideal

The ideal situation would face south-east, and have a fence, or building, to shelter the aviary from strong west winds; birds dislike the wind and should be able to get protection from it. Still, these conditions are not an absolute necessity. If we can manage three or four hours of sunshine during the day, this will be quite sufficient, and by some means or other we shall be able to give the necesssary shelter from the wind and also the rain which, as all know, generally comes from the south-west. If we are obliged to build our aviary with the latter aspect, we can, by partly boarding up the front and allowing a good overhang with the roof, improve matters considerably.

A cold situation, such as one facing north-east, would mean disaster; and one due south would not be at all desirable—six or eight hours of fierce sunshine during the hottest part of the day in midsummer is too much for birds and many die, directly or indirectly, from heat stroke. But should one be so fortunate as to command partial shade from a tree, it would, of course, be a different matter.

Some Essentials.

A certain amount of sunshine, a free circulation of air, and protection from wind and rain, must somehow be compassed when choosing the situation, though these conditions can to a certain extent be arranged when constructing the building. The following is an instance: An aviary, measuring six feet by five feet, was built in the corner of a garden. But when constructed it was found that the sun shone on the roof only, and did not penetrate into the interior on account of a tall building standing rather close to it. The ingenious fancier easily overcame the difficulty by making work upon hinges that part of the roof on which the sun pitched, so that during fine weather he could turn this part back and thus expose the interior to the full light through a wire roof.

A few evergreen shrubs will help to break the force of the wind, and a quick-growing creeper tempers the sun's rays. In some cases a wooden shutter or canvas cover will be found useful in Autumn and Winter.

When selecting the site, it is best, if possible, to choose one in a corner, or against a wall or fence, as this will conduce to a great reduction in the expense.

CHAPTER II

The Materials Described

Unless our building is of an extraordinary size, we shall not require heavy timber for its construction. What is known in the trade as two-inch quartering will be heavy enough for any span not exceeding six feet in length, that is, providing we already have two sides (namely, a corner to build in); failing this it will be as well to use for the main uprights wood measuring two inches by three in thickness. Both can be bought ready prepared in lengths of from six feet to twelve or fourteen feet. When bought prepared, i.e., planed ready for use, the measurements are not quite the same as regards thickness, as a certain portion is, of course, taken off in the planing.

The Front, the Floor, and the Roof

We shall no doubt decide to board up a certain portion of our aviary. This can be done with ⅝in. match board; anything thinner would be useless, and if thicker would be clumsy. It is false economy to use anything larger than ½in. mesh wire netting, although it is quite true many birds could not get through ¾in., yet there is always the danger of a strand getting broken or a bird clawed by a prowling cat.

The floor can either be paved with bricks or tiles, cemented with Portland cement and sand (three of sand to one of cement) or the earth be beaten down firmly and covered with two or three inches of builders' sand. In whatever way it is treated it must first be made level, and rammed down hard and firm.

The roof is of great importance, as a leaky covering is always a source of trouble and expense. No doubt the ideal one is made with tiles, though this is rather expensive when compared with wood and felt. But it is so much superior that it is well worth the extra outlay. Tiled roofs always look well, and can be relied upon to last for years.

Nails, screws, and wire staples will, of course, be required, hinges for doors, and a few holdfasts, and possibly one or two iron brackets for strengthening corners.

Prices of Materials

Timber, 2 inches by 3 inches, 12s. 6d. per 100 feet run.
Timber, 2 inches by 2 inches, 9s. 6d. per 100 feet run.
Floor Boards, 30s. per square (10 feet by 10 feet).
Match Board, 25s. per square (ditto).
Feather Edge Board, 18s. per square (ditto).
Sash Bar, 15s. per 100 feet run.
Roofing Tiles, 11s. per 100.
Roofing Tile and Half, 22s. per 100.

The prices of timber fluctuate considerably, and the above must only be taken as approximate prices. In some districts they may be higher, and in others a trifle lower.

CHAPTER III

Details of Construction

We now come to the actual process of making our Aviary. As in a case of this kind probably no two fanciers would decide to build the same sized aviary, we will assume that we have arranged to have a building six feet long, four feet wide, five feet at eaves, and six feet six inches at back. This is to be built in a corner of the garden, against the house, and has therefore two sides already completed; consequently our building will be what is known as a "lean-to." This means that we get it in as simple a form as possible—i.e., with the roof sloping from back to front. Had we decided to have an isolated building we should have

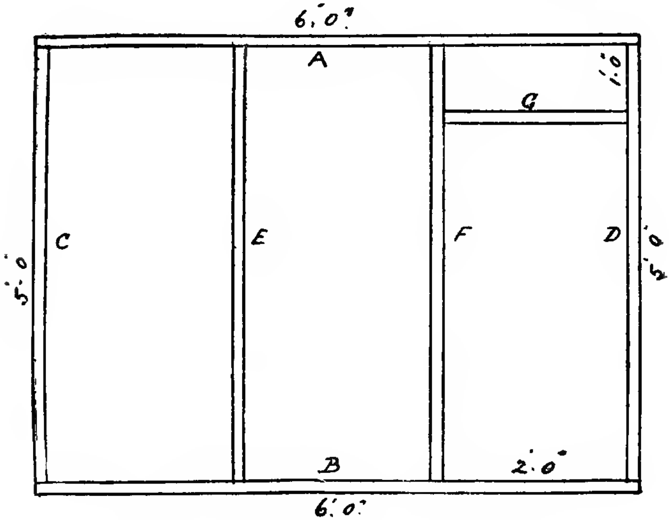


FIG. 1. FRAMEWORK OF AVIARY FRONT.

required a gable roof, which would have meant considerably more labour and expense.

Now part of our building must be made in one piece, or frame, because in time to come we may want to add to it, alter it, or remove it to another site, and by making it in this way we can do so without pulling it all to pieces. We will first make the framework of the front as shown in Fig. 1, after having decided to use 2-in. quartering, which has already been bought

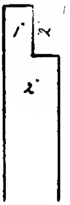


Fig 2

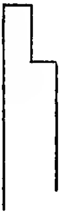
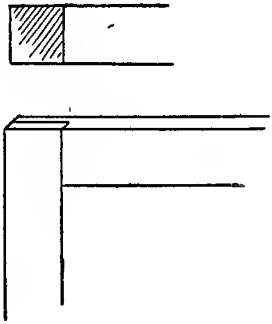


Fig 3.



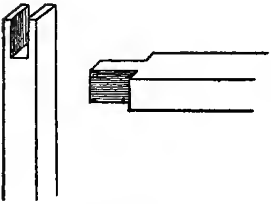


Fig. 4

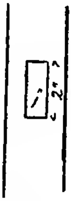


Fig 5

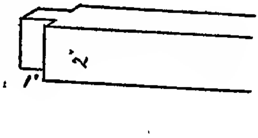


Fig 6.

in lengths as near as possible to what are required. For this framework we have one twelve feet length and two ten feet lengths. These we saw exactly in halves, making two six feet and four five feet lengths.

Taking one of the six feet pieces, we proceed to cut it as shown in Fig. 2 (for simplicity in drawing and description we assume our wood to be exactly two inches square). The same side of the other end of the wood, and the other six feet length are treated similarly, and form the top and bottom bars, A and B. We next take two of the five feet pieces and cut these in a like manner, so that we are now able to make the joint as shown in Fig. 3. This is a very simple way of jointing our framework. Should anyone decide to make a mortice joint it can be done as shown in Fig. 4, which is, perhaps, rather stronger and more workmanlike, but the other joint, if neatly done, is quite strong enough, and looks very well.

When marking the wood for these joints it is necessary to use a square, as we shall by this means be able to get our work true, and consequently to fit well. Having made these, we just put them together to see that no mistake has crept in, but do not yet nail or screw them.

We have now to mortice the top and bottom bars to fit in the uprights E and F. Fig. 5 shows the hole made, which is accomplished with mallet and chisel. It need not be cut right through the bar; if it just fits in say one inch, to hold it secure, this will be quite

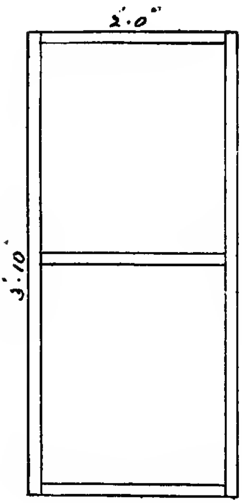


Fig. 7

Framework of the Door.

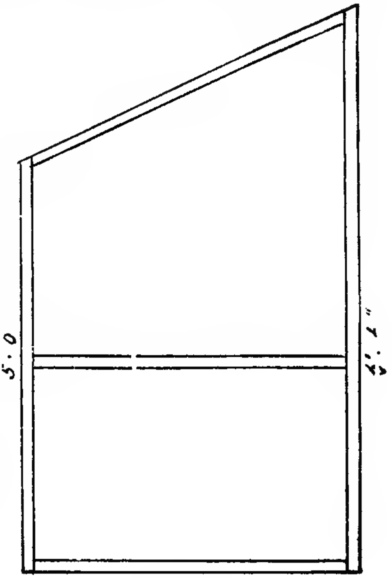


Fig. 8

Framework of the Aviary.

sufficient. From our plan, Fig. 1, we can see the exact distance these will be apart. To prevent mistakes make the holes in one bar first, then lay the other beside it, and mark the places with the square and pencil. Before putting the frame together, we have to mortice F and D to receive the cross-bar G, also to cut the ends of C, E, F, D, as shown in Fig. 6.

Possibly one might think the cross-bar G quite unnecessary, but this is put there to prevent the escape of birds when the door is opened. In dashing about when frightened, birds invariably fly to the top of the wire netting, and by having a strip directly over the doorway many will be saved which otherwise might easily get out.

We can now fix our frame together, putting two screws into each corner. Screws should be used in preference to nails, as they hold tighter, and are able to draw the wood closer together, so making a much better joint. Before screwing up, just put the square into each corner and see that the framework lies fairly true. That of the door should be made in much the

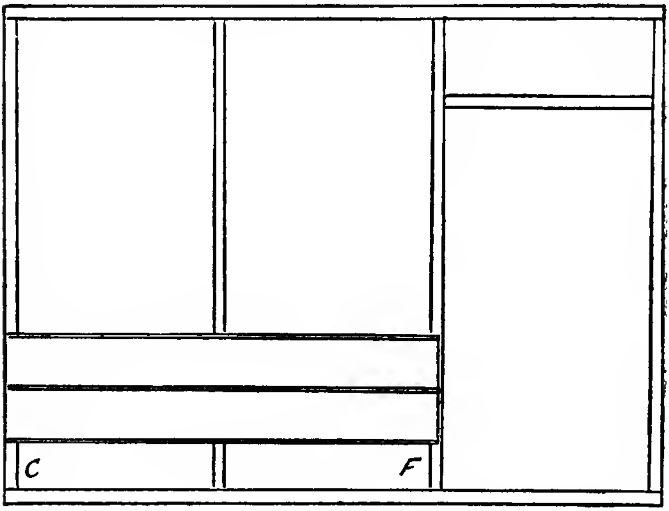


Fig. 9.

BOARDED PORTION, SHOWING SPACE (CF) LEFT FOR FLAP ON HINGES same manner, and should have a cross-bar for extra strength (Fig. 7).

We must now proceed to make the frame for the side as shown in Fig. 8. Be careful when doing this to get the bottom bar quite square with the upright, or else the aviary will not be true when fitted in position.

But before doing so, we will board the bottom as shown in Fig. 9. This is for the purpose of keeping out some of the rain, which might otherwise drive in and cause the floor to be constantly damp. We shall use matchboard five-eighths of an inch thick, which will have to be nailed on horizontally, on account of the flap in the opening between E and F; otherwise it would look much better and neater if they were put on vertically. In nailing the boards on in this manner we shall find there is, as in most things, a right and a wrong way. In Fig. 10, A is shown the proper way, and in B the improper. It will be readily seen that if we nailed it as shown at B, the water would lodge in the groove and soon rot the woodwork; by the other way this is prevented.

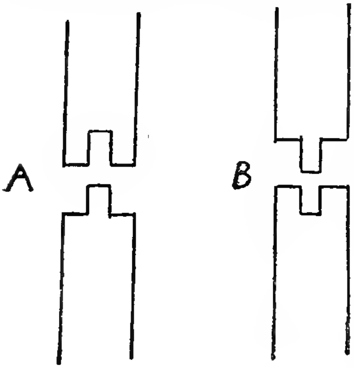


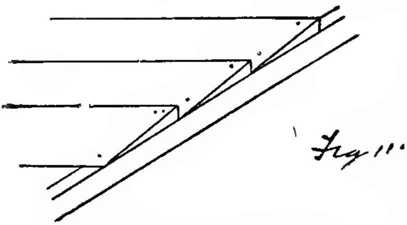
Fig. 10.

Three widths of board will be sufficient for boarding up the front, one width between C and F being made to work on hinges, with a button fastener. We shall find this flap of great use in the management of the aviary. If necessary food and water can both be put in here, also the bath, and wild seeds, or anything else that we may care to give our pets. This little flap door can also (with the aid of a scraper) be used for the purpose of cleaning out the floor of the building. The door itself we shall also board up to correspond with the front woodwork.

Now that our frames are ready, we can proceed to fix them into position. A heavy stone or piece of lead tied on the end of a string will give us a plumb-line with which we can make sure our structure is upright and true; a little trouble taken in this way gives always greater satisfaction afterwards. We then see our work made the most of, it gives us pleasure to look at, and obviates unkind remarks from our neighbours and fellow-birdie friends. A couple of holdfasts driven into the wall will hold our frames into position; the corner wherein the two meet can be made secure by screws, or by the use of a couple of corner brackets. When we get it into position we shall be astonished at its rigidity.

Methods of Roofing

We now fasten a fillet of wood along the wall, 6 ft. 6 in. from the floor, and level with the top of the side frame, to receive the rafters for the roof. Three of these will be required, opposite C. E. and F and corresponding with the top bar in Fig. 8; see that these are level before proceeding to fasten them into position. We have already decided to have tiles on the roof, and must therefore board it with 4 inch feather-edge board, which should be done as shown in Fig. 11. By putting it on in this manner a ridge is left for each tile to hang by. The latter are made with nibs and nail holes, so can be both hung on and nailed if thought necessary, but it will be found in practice that the weight of the tiles is quite sufficient to keep them in position. For every other course of tiles a tile and a half will be required (which is one made half as big again) to start every other row, so that they will lap, and prevent water running through the cracks; see Fig. 12.



Method of Fixing Feather-edge Boards for Tiled Roof.

It is possible that many bird-keepers would like something less expensive and more easy to fix. In that case, the feather-edge board can be nailed on in the usual way (i.e., with the thick edge downwards) or the roof can be roughly boarded and covered with felt. If the roof is to be covered with felt, the board used should be quite plain so that the felt lays flat without any ridges and will require to be well tarred. The material for this purpose may be obtained from most oil and colourmen. The tar should be made quite hot before using., and as it cools must be re-heated This can be conveniently done over a small fire in the garden. It is usual to well sand the felt while the tar is wet, but my own experience tells me that sand should not be used. The tar should be put on hot and thinly, and when quite dry another coat added. If treated in this way the water runs off much more rapidly and a fresh coat is easily applied on the smooth surface.

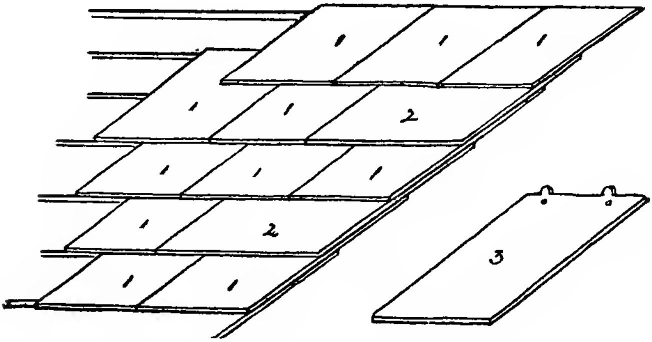


Fig. 12. Method of Laying Tiles.

1. Single Tiles. 2. Tile-and-a-half. 3. Tile, showing nibs and Holes.

A roof that is to be tarred should not slope so much as one tiled, or boarded, because in the hot summer the tar melts through the heat, and, running down the sloping roof drips from the eaves, making a mess in the front of the building.

Whichever covering be decided upon, we must not forget to make it fall over about three inches in front, and the same at the side. This aids materially in keeping the floor of the aviary dry during a long spell of wet weather.

Before proceeding further with our building, we had better attend to the floor. In a small aviary it is impossible to have anything in the way of decorative effect; we have not the room for grass plots or shrubs and fountains. Our floor must be hard and sound, so that we can periodically clean it out thoroughly, for it is just possible we shall at times overcrowd it with birds, in spite of all good resolutions to the contrary.

How to Lay the Floor

When laying the floor it is a good plan to have a gentle slope from back to front, for in bad weather the wet is sure to drive into it and saturate the bottom. A dead level floor would retain the moisture and be some time drying on account of being partially protected from the wind. By giving a slope of only half an inch to the foot we shall be able to drain it, and it will consequently dry much more quickly, much to the benefit of the birds.

Painting the Woodwork

Having fixed our building in position, we must now paint the woodwork. Here individual tastes differ, some preferring one colour, some another. Some colours have plenty of body in them and cover and wear well—such as slate and purple brown; it will also be found that colours containing a good proportion of white lead have the same qualities. The greens are bad colours for outside work, and, if used, should be preceded by at least two or three coats of paint containing more body. For exposed woodwork dark purple brown will be found to wear and look well, especially if a little varnish be added when giving the last coat. White and cream, too, are excellent colours for suburban or country aviaries; the buildings look light and effective, and one has no difficulty to match either colour when it is found necessary to re-paint.

As regards the two latter colours, cream is to be preferred to white. White, even when made from good white lead, will flake and peel off when exposed to the weather. Cream stands much better, gets hard and makes a fine surface. A small quantity of yellow ochre well mixed in with good white produces a cream. This can be mixed to any shade to suit the taste of the fancier. See that the woodwork is quite clean and dry before laying on the colour.

It is advisable to rather overdo the painting at first, while we are able to get at the interior, for later on, when the wire netting is fixed, we shall find it practically impossible to re-paint some parts.

Fixing the Wire and the Door

We must now measure up and get our wire. This can be procured in several widths, but we shall require that twenty-four inches wide. A pair of sharp pliers, or pincers, will be needed to cut off each length. To fasten it on we must have some small wire staples, which are made for the purpose and can be bought with the wire.

A little care must be taken in order to get the netting fixed evenly and straight. Knock in a few staples here and there first, but not driving them quite home, so they may be removed with the pincers if necessary. A thick piece of string will be found useful to aid in pulling the wire tight. We must nail it on to the frame, and at the bottom to the inside of the board. To be able to do the latter we must prise up the board a little with a chisel or screw-driver; then, when completed, the whole will have a much better appearance than if the netting is fastened on the front.

We must next fix on our door with a pair of strong hinges (called " butts " by the ironmonger), and put on a couple of fasteners to keep it shut. It is just as well to have two of these to prevent accident; one should be half way down the door and the other high up, out of the reach of children. Even if one does not happen to have any of his own, visitors generally bring little meddling fingers with them (half the contents of a good sized aviary were once lost in this manner).

A Point About Perches

We have now practically finished our little building, and must soon think of stocking it. But before doing so it will, of course, be necessary to fix in the perches. In an outside aviary nothing looks so well as a branch from a tree, or a small tree itself. One of these should be selected with plenty of side branches, which should vary in thickness as much as possible, a point often overlooked by bird-keepers. No doubt many birds, especially young ones, are crippled for the want of sufficient exercise for the toes—if we, ourselves, were constantly handling things of exactly the same thickness our hands and fingers would in time take on a cramped and crippled condition. We may often see an example of this in the hands of workmen daily using certain tools; the muscles get fixed and the hand assumes a cramped shape. It should be quite evident that birds require exercise for the legs and feet as well as for the wings.

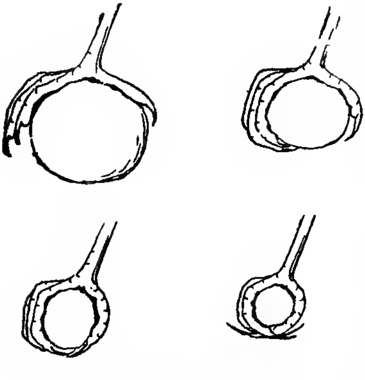


Fig. 13. Bird's Feet Shown on Perches of Different Sizes.

In Fig. 13 we see the difference in a bird's foot while perching upon thick and thin branches, and it shows that by adopting variety we give the foot the necessary exercise.

The perches must be placed judiciously. The interior does not want to be crowded with branches or there will be no room for the birds to fly and take exercise; place them in such a manner as to give them a good fly from one set of perches to another. If we decide to have a tree or branch, we must fix it in a sloping position, not upright as a tree grows; see Fig. 14. By adopting this method we give our birds a greater variety of perches, and prevent the droppings from the top birds soiling both the plumage of others and the lower branches.

No perches should be nearer than 3 or 4 inches to the wire, as birds delight to roost close to it, thus running considerable risk from prowling cats. In like manner it is a mistake to have cross-bars round the frame work of the aviary, as the inmates frequently roost on them, and are likely to get thoroughly wet during the night, if there should happen to be a change of wind and weather.

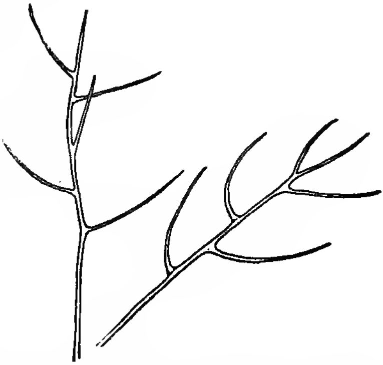


Fig. 14. Right and Wrong Method of Fixing Tree-branch in Aviary.

For some of the larger birds, such as Jays and Magpies, we shall require good stout hedge-stakes for perches; these we can generally manage to get from the nurseryman who keeps them for staking dahlias, roses, etc. They answer capitally for our purpose, but should be purchased in various thicknesses. Fix them firmly, as birds very much dislike a perch that twists round. A swaying perch is natural, but one that revolves is troublesome to the inmates of the aviary.

CHAPTER IV

On Various Styles of Aviaries

The description previously given is only just that of the simple aviary—one that almost any handy bird-keeper can construct for himself for the purpose of housing a few birds. But many fanciers with plenty of room, would possibly like to improve upon this, and put up something more elaborate. Then, again, the building we have described will not be suitable for every situation; in cold bleak spots it will be necessary to give the inmates more protection than such an aviary affords. We must remember that although wild birds are constantly exposed to the elements, they are always on the move, and are not obliged to keep in any one position for any length of time; neither do they, as a rule, roost in very exposed places.

Anyone who has taken the trouble to investigate how our wild birds roost, will be well aware of this. The ivy round the warmer side of the house, or growing up the trunk of a stout old tree, or perhaps the evergreens in the shrubbery, form the chief roosting places of our resident soft-bills. Then there are the farm buildings and the snug corners round the hay ricks, which are also tenanted by feathered lodgers on cold or rough nights. So that unless our aviary is situated in a snug part of the garden, and fairly well protected by buildings or fences, we should by some means afford our birds the opportunity to take shelter if they care to do so.

A building such as depicted in Fig. 15 is simple, and yet quite effective. It will give protection from rough winds, and must be warmer for the inmates than one entirely open. It will be noticed that it is practically a repetition of the building already described, excepting that a portion of it is entirely boarded in. As a place of this description would be rather dark (which would prevent the birds making as much use of it as we desire), we must put at least one good window in it, although two would be better—that is, one at the top and one in the front.

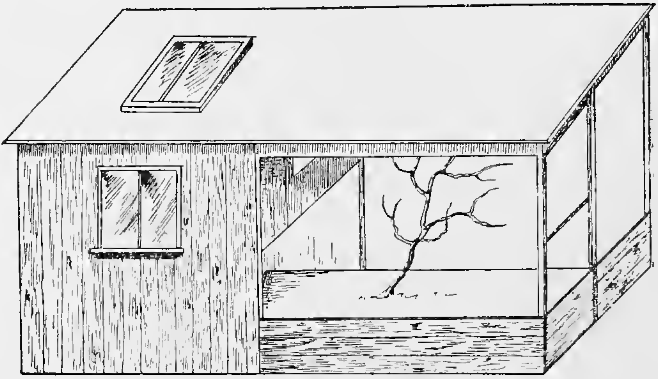


Fig 15. Aviary for Exposed Position.

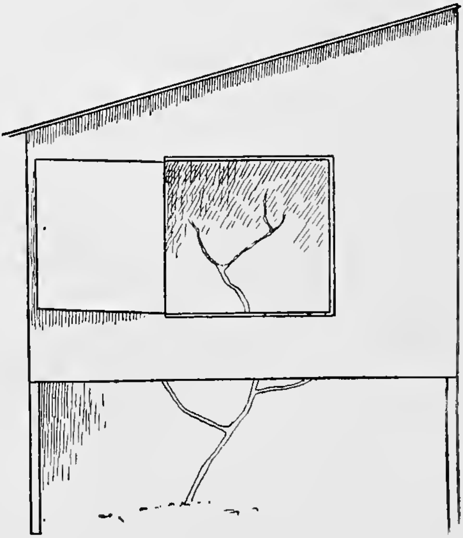


Fig. 17. End View of Aviary for Exposed Position.

Fig. 17 shows there are two methods of making the partition inside the building to allow the birds to fly freely in and out. If we adopt the top one, and fix a

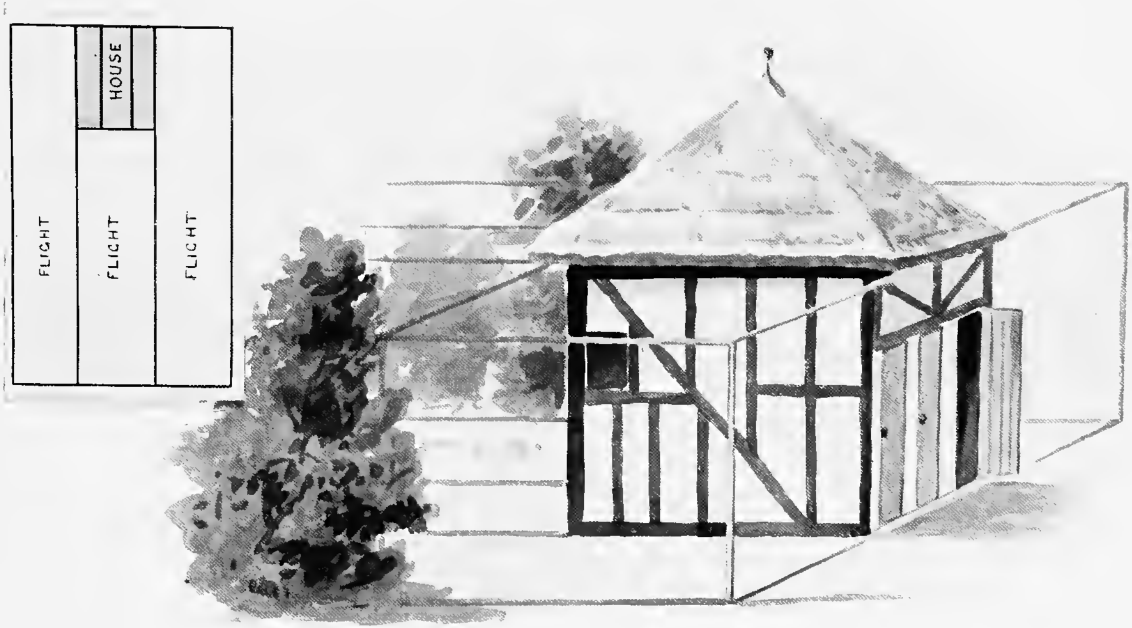


Fig 18. A Rustic Bird House.
This House has a thatched roof and three uncovered flights for the birds. Inset at side is the ground plan of building and flights.

door to it, we can by a simple arrangement of either cords or wire, close it from the outside when necessary; so that in the depth of winter the door can be closed after our pets have gone to bed, and they are then comfortable for the night.

The other method, as the sketch shows, is simply to board the end to within about two feet of the floor; the birds can enter the building by flying under this, and as they generally roost as high as possible, will be away from the draught during the night.

A Rustic Design

Fig. 18 (full-page plate) shows a building erected as shelter for the inmates of the aviaries; the interior is divided, so that a portion is given to each flight. This has been in use for some years, the birds doing well in it, and being surrounded by evergreens, it is fairly well sheltered. The doors at one side (as shown) are used for cleaning purposes.

The birds enter and leave the building by small unglazed windows, similar to the one shown in Fig. 17. A hinged shutter, to close at will, is useful during the periodical cleansing of the interior. The walls are plastered, and painted to represent a timbered structure. The thatched roof is an ideal one; warm in winter, cool and pleasant in the summer.

Some will possibly like to build a place for their birds directly outside a window, so that their feathered friends are always in view. In such a case the windows should be protected with wire. This may be made to fit the framework, and be kept in position by screws or buttons, so that the window may easily be cleaned when necessary.

Covered Top Important

Unless the flight is very large, no matter what the position, it is always advisable to cover over the top, for it will be found in practice that small birds will sometimes sit for hours out in the open during wet weather, until their feathers are saturated with moisture. I once saw a cock Canary do this. He was hardly recognisable, looking in fact as if he had just been washed ready for the show bench. He was singing the whole of the day; but on the third day afterwards he was dead. Healthy and well, he took no notice of the exposure, but going to roost with a wet jacket was evidently too much for him. In a very large flight, partly unroofed, there would hardly be so much danger, as the extra flying space would keep the blood well circulated, so to speak—and, of course, a goodly portion would be covered in.

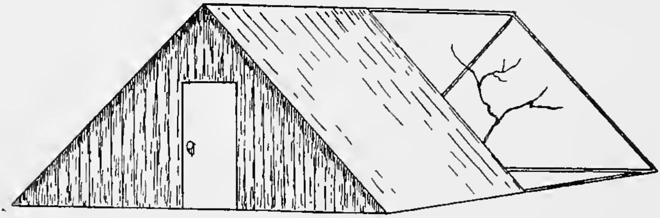


Fig. 19. A Simple Form of Aviary.

Fig. 19 shows a very simple aviary. An examination of the diagram will give one an idea of the ease with which it can be made. The sides and roof are all in one piece, so that we do away with a good deal of timber and labour in constructing it. It is only partly covered in, and has a door in the covered end. There is no difficulty in entering it, as the birds are mostly at the opposite end where the light is. One in use is placed in a meadow, where the trees shelter it, and is occasionally shifted to fresh ground, the latter being generally done in the evening, just as the birds are roosting. Such a building is more suitable to the larger birds. The one actually in use, when last I saw it, contained various Doves. The objection to this aviary is the limited flying area, the greater part of the space being near the ground.

Elaborate Aviaries

At times some very elaborate aviaries have been constructed for special purposes, but, of course, the conditions have been in every way favourable, the space unlimited, and the expense not a great consideration. A stream running through private grounds has been wired over, including the bushes and rank herbage growing upon the banks. This was done specially for the keeping of a pair of Kingfishers, and very beautiful they looked darting about the enclosure. But, of course, few could indulge in such an expensive luxury.

Another charming place was made from a corner in which a little pool of water overflowed its banks and went trickling over the miniature rocks below, running away and forming tiny waterfalls. At the bottom it was received by a very shallow basin made with a large slab of slate, at one end of which a waste pipe carried the water away, so that there was never more than half an inch of moisture in the basin. Rocks and coarse grasses covered the remainder of the ground space. This building was given up to a varied collection of Waders, and very pretty they looked paddling about the rocks and pool.

The same idea could, of course, be carried out for other species of birds; Wagtails would look especially natural running over the grass and among the rocks by the waterfalls. A few shrubs planted close to the wire netting would improve such a place considerably. A difficulty might arise with some bird-lovers over procuring the materials for the rockwork, but if one should live anywhere near a brickfield they can obtain a cartload of burrs for a few shillings. These are the bricks which have become blended together by the great heat in burning. If put together with cement, pools or waterfalls can easily be constructed by artistic fanciers.

CHAPTER V

Mainly Details

No matter what building we erect for our pets, be it simple and home made, or elaborate and put together by skilled workmen, we shall never have any success in it unless it is properly and carefully managed. I once knew a friend who had the most extraordinary success with his birds in the most ramshackle aviaries imaginable. He was painstaking, and carefully studied the wants of the inmates, and did everything he possibly could to make them happy and comfortable—his management was perfect, which accounted for his good results.

Roosting Peculiarities

The perches, we have previously referred to. But if we find certain birds will insist upon roosting or being quite close to the wire netting, we must by a judicious arrangement of perches induce them to change their roosting site. This can be done by fixing a branch fairly close to the wire, near the position they favour. Siskins and Goldfinches are very much given to roosting in a clinging position, tight against the wire. This is especially noticeable in fresh-caught birds, and even those that have been cured of the habit when living in cages may commence it again when turned loose in the aviary. It is as well to leave them the first few nights, just suspending an old sack or placing a piece of board against the wire near them, as protection from cats. When they are seen to constantly retire to the same spot, it will then be time to try some means of curing them. They will often take to a twiggy branch placed close to the wire, which can after a night or two be put a shade farther away.

Birds like to get on a topmost branch as a rule, and it is a good plan to place some quite at the top of the building within a few inches of the roof. Even then there will be squabbles for favourite spots (generally those near the wall); in this case the old saying is turned topsy-turvy, and it is the "strongest that go to the wall."

Should we have a fancy to give our aviary a rustic appearance, this can easily be done by the aid of Virginia cork (or bark), sold nearly everywhere. By covering one end with it and filling the open spaces with heather (which will keep green for months) we afford our birds plenty of ideal roosting sites. So closely do they pack in some of these crevices, that I have frequently thought a certain bird had by some means managed to escape from the aviary.

Shrubs and Evergreens

When large evergreen branches are required, there is nothing better than the box tree; it is thickly leaved and affords capital shelter. It is superior to pines and yews as these shed their needle-like leaves and cause an unsightly litter.

It is impossible to have growing trees in anything but the largest flight. Birds in confinement are very mischievous, and will take a delight in stripping the leaves and buds off directly they appear—in this matter Canaries and Hybrids are much worse than British Birds. I once tried the experiment of planting a strong lilac bush in an aviary. This was put in during the winter, when the sap was down and no buds showing. When it began to put on its spring dress the birds were given plenty of green food, but they would not give the tree a chance. It struggled hard to grow, but each bud was nipped off, and even the shooting suckers at the roots.

Turf and Sand

In large aviaries, where the birds are given a good uncovered flight, turf looks much better than anything else at the bottom. In showery weather it keeps fresh and green, and is not at all unsightly, and during the hot summer months a good watering or spraying with the hose will keep it in fine condition. Failing this a couple of inches of fine gravel looks well. It should not be beaten down, but left loose as laid, and if occasionally gone over with a fine rake will always look neat. But before the gravel is laid the earth should be well beaten down, levelled and watered. The watering settles it down and we can then see if it requires any re-laying.

Good sharp sand should be used in the covered portion. Ordinary builder's sand does capitally, and can be bought fairly reasonably in the London district. In some country places it is even cheaper. Bird-keepers by the sea-side would, of course, be able to get sand from the shore.

CHAPTER VI

Methods of Feeding

In an aviary where a number of birds are flying it is impossible to supply seed in the ordinary way, because we should not be able to gauge properly the eating capacity of the inmates. They must be given certain seeds in quantity, and to do this there is nothing to equal a self feeding hopper as shown in Fig. 20. This should be made of thin wood, with a glass front, and one can then see at a glance when the supply of seed is getting low. It should have two feeding holes; one will admit light, while the bird is feeding from the other. But even this hopper must be watched, or the birds will crack and eat the seeds with their heads inside, dropping the husk there instead of outside, and thus covering up the uneaten seeds so that others are unable to get at them. For birds the size of Finches, the feeding holes should not be more than three-quarters of an inch in diameter.

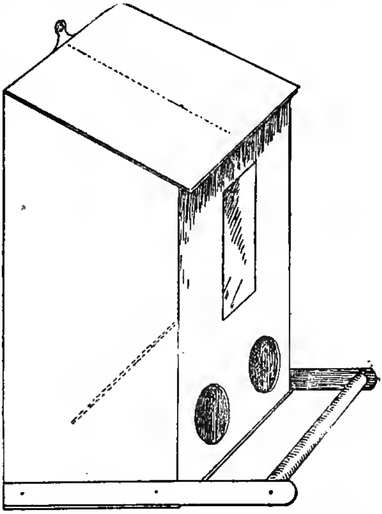


Fig. 20. Hanging Seed Hopper, dotted line show interior fittings.

It is not a good plan to put mixed seed in the hopper, unless only such staple food as canary and rape; even then a double hopper is much to be preferred, one compartment for the canary and one for rape. Any of the more oily seeds, such as hemp, linseed, niga, etc., should be given in separate vessels.

Where soft-billed birds are allowed in an aviary, the vessel containing the soft food should be placed on a raised platform—this prevents a great deal of waste and soiling of good food. Fig. 21 shows a feeding trough made specially for an aviary devoted to soft-bill birds. It is fastened to the inside of the building, and has a small platform underneath, one and a half inches from the front of trough. Beyond this is a stout perch, so that the birds can stand and feed, and as they have a habit of taking little pieces out of the feeding vessel, part of which they invariably drop, the small platform catches the latter and prevents waste. The wires in front of the vessel allow the birds to get their heads through, yet prevent their throwing the food about. A small door in the woodwork of the aviary made to correspond with the back of the feeder will enable the bird-keeper to take the vessel out, refill and replace it without in any way disturbing the birds. The upright wires prevent any bird escaping through the

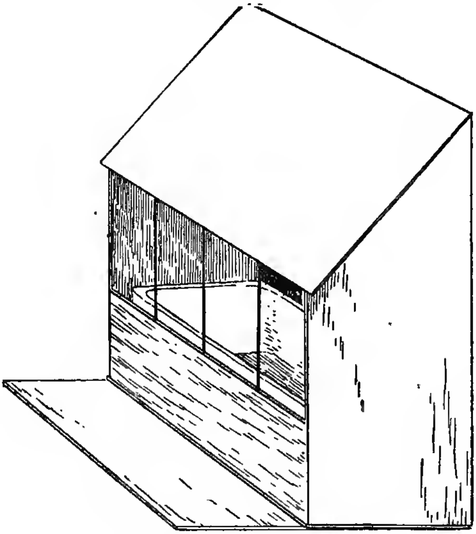


Fig. 21. Hopper for Soft Food.

aperture. Such an arrangement would be useful for supplying hemp, etc., to Finches.

The Water Supply

The water supply must be ample, and easily reached whenever required. It must be offered so that the birds can drink but not bathe: therefore an open vessel is practically useless. Many glass and stoneware drinkers are made; but not all embody the essential points of perfection. A drinker for aviary use should be made in two pieces, for it is almost an impossibility to thoroughly clean one of the entirely closed kinds. Fig. 22 shows a well-known Fountain (patented) vessel—Jones' Hygienic — which has been used with very satisfactory results. It is made in two pieces, and is therefore easily cleaned. The top fits closely down just inside the saucer, leaving a small place only for drinking purposes so that it is impossible for the birds to bathe.

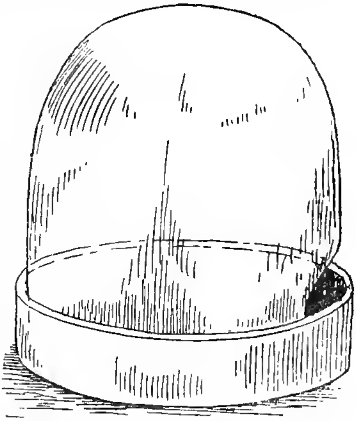


Fig. 22. A Glass Water Vessel for drinking purposes.

An ordinary earthenware jam jar with a piece chipped out of the rim filled with water, and turned upside down in a shallow saucer, will answer the same purpose, the only objection to it is that one is unable to see how much water is used, but if it is replenished at regular intervals, the fear that the birds will be without drinking water is not very great.

The Bath and its Use

During the summer months our birds should be supplied with a daily bath, and during the winter at least once each week. Any large vessel that will contain an inch or so of water will answer nicely for a bath, providing the birds are able to get into it easily, and that it has not a smooth, slippery inner surface. It will be found a good plan to put in a handful of small stones the first time a new bath is used, for if the birds once get frightened by slipping about, or not being able to easily get in and out, they will be a long time ere making another attempt.

Fig. 23 shows a bath made expressly for aviary use. It is 12 inches long, 8 inches wide, and 2 inches deep. Any bird-keeper who is handy with tools, and can use a soldering iron, can make one for himself. Get a sheet of stout zinc and cut as shown in the drawing marked A. Bend up the sides at the dotted lines, when they will form the vessel. Then solder the flanges down securely to the sides and drop a spot of solder in each corner to make it water-tight. The extra lengths at the sides should be rounded over a stick, thus forming perches all round the vessel; this can easily be accomplished by carefully tapping the zinc with a light hammer or piece of hard wood.

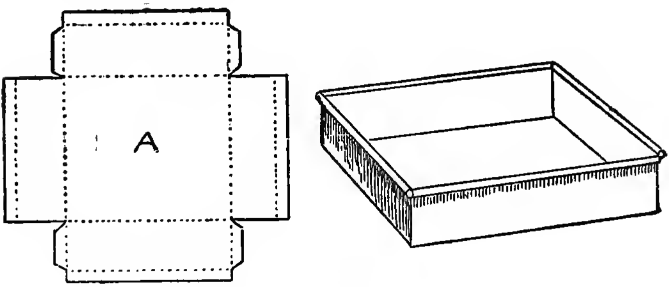


Fig. 23. A Zinc Bath.

In the summer time the bath may simply be placed on the floor of the aviary; but during the winter it must be put into a larger vessel, on a piece of board, or even upon an old sack, as it is conducive to the well-being of the birds to keep the floor as dry as possible.

CHAPTER VII

Entering and Cleaning

Wherever we house our captive birds, whether it be in bird-room, cage, or aviary, we must keep them thoroughly clean, or we may in time reap a bad harvest of our own sowing. Aviary birds have more floor-space than those in cages, consequently it is hardly necessary to clean them out quite so often; but at the same time we must not neglect them. If fitted with a flap at the bottom, as advised in the simple aviary described in Chapter III, we shall have no trouble, with a wooden rake fitted with a long handle, in managing it. But if we are obliged to enter the building some arrangement must be made to prevent the escape of any of the inmates.

In a large flight it is not a difficult matter to slip inside without any mishap; for this purpose the door should be a low one, as birds invariably fly high when disturbed. Or we can fit a wire lobby, either to the inside or outside of the flight; by this means we enter by one door into the lobby, close it, and enter by the other into the flight.

Where we have not the room for either of these arrangements, we must manage as depicted in the page photographic illustration. There is shown an attendant about to enter a small aviary, a companion holding a sheet up ready to cover his entrance; the next depicts the sheet entirely covering him while he opens the door and enters the building. If it is not always possible to have a companion to help, it is a good plan to hang up the sheet over the door by means of rings and hooks. Many a bird may be saved by adopting this method.

To Circumvent Cats

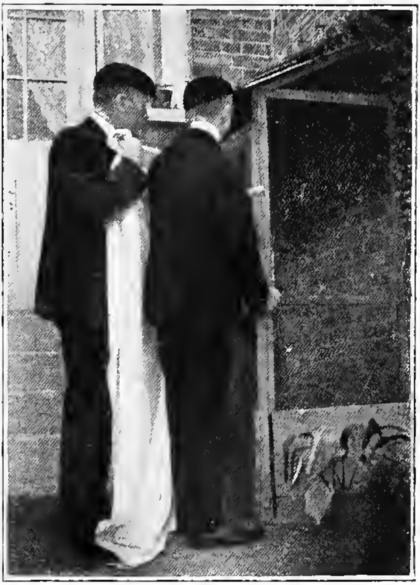
One of the worst troubles we have to contend with in an outdoor aviary is the unwelcome attention of our neighbour's cat or cats. Undoubtedly the very best remedy is a good sharp terrier. Pussy soon learns where danger lurks and gives such gardens a wide berth. In some districts cats are exceedingly plentiful, and one has to be always on guard against them. In such cases it is necessary to do something to prevent their getting too close to the wires. If when making our aviary we board up, say, about two feet or two feet six inches at the front, cats have to spring before getting near the birds, and are unable to get a proper foothold. They do not do much damage then beyond frightening the inmates, and perhaps spoiling their plumage. Cats are intelligent animals, and soon get to know the exact possibilities of the venture, and after a few attempts give up the game. But where strange cats are constantly about, it is wise to put up some other guard. A framework of wire netting some six inches away from the aviary will be an effectual arrangement; the wire need not be less than inch mesh.

Mice a Great Nuisance

When stocking a new aviary it is a good plan to commence by putting in two or three common birds, the first night there will be trouble round the building; all the cats in the district will visit it, each in its turn " having a go " at the inmates. After a few such attempts they will give it up, and you may then put in your more valuable birds. Cats should never be allowed in close proximity to the wires of the aviary, or they will sit for hours watching the inmates until some unlucky bird gets too close (or is frightened to such an extent that he dashes madly about) and so has to pay the penalty. A cat will manage to claw a poor luckless bird through the very smallest wire, so it is not wise to consider a small mesh a certain safeguard. Occasionally we get a visit from some highly respectable grimalkin who comes to see us for the sake of helping us to clear off our surplus stock of mice; a moment's watching will tell us if this is so or not. Such cats should be encouraged because as a rule they are fonder of mice than birds.

Mice are a great nuisance, eating our seeds and, worst of all, fouling more than they eat—birds have been known to starve sooner than partake of food con-

METHOD OF ENTERING AN AVIARY.
Fig. 23. GETTING READY.



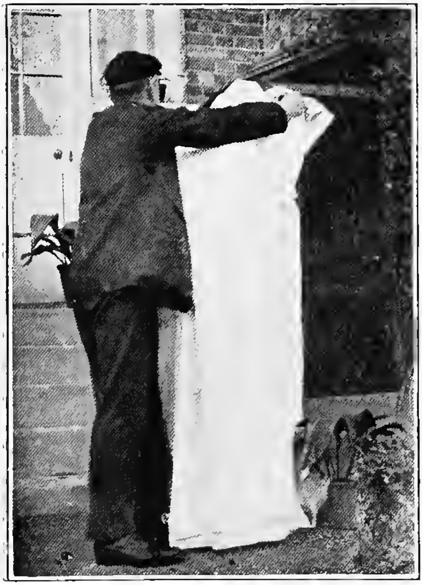


Fig. 23a. ENTERING THE AVIARY UNDER COVER OF A SHEET HELD OVER THE DOOR, THUS OBVIATING THE POSSIBILITY OF ANY OF THE INMATES ESCAPING.

taminated by these little pests. Unfortunately they are fonder of canary seed than anything else; consequently we do not stand much chance in baiting traps with it. At the same time, if carefully done, many can be cleared off by its use. The common penny break-back traps are the best. These have a small piece of wood to place the bait on. This wood or tongue should be slightly greased, and then have a few grains of canary seed sprinkled upon it. It is, of course, useless and dangerous to set this trap inside the aviary, therefore it should be placed somewhere close by. If a box or piece of wood is leaned against the wall, over the trap, mice will be sure to run under it, and will not trouble to go inside the flight when good sound seed is to be found outside. If you should happen to have a tame Magpie among your birds he will be vastly interested in your doings—and more so when the robber is caught, for Mag. dearly loves a mouse.

If you are much troubled with mice it will be necessary to try some means of keeping them away from the seed. The best method of accomplishing this is by having a hanging seed hopper, and even then one is not absolutely safe, for these little animals get into what are seemingly inaccessible places. But if you use the hopper depicted in Fig. 24 they are much more likely to be satisfied with the seed spilled upon the floor of the aviary.

This hopper should be suspended from the roof of the aviary. When putting it up, one should be careful to fasten it to as clean and smooth a place as possible—that is, there should be no perches near, nor any cross bars of timber or rough boards. Mice are so active that hardly

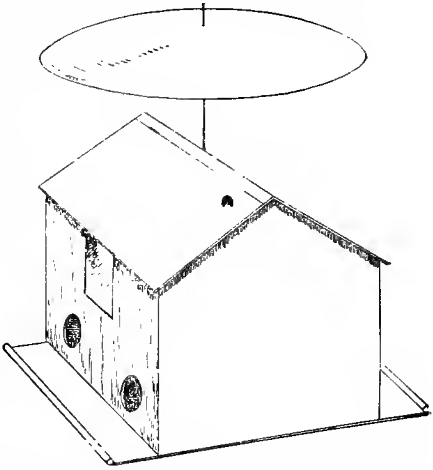


Fig. 24. DOUBLE HANGING HOPPER, WITH TIN DISC TO PREVENT MICE GETTING AT CONTENTS.

anything stops them, and it is well to be careful not to give them an advantage. The hanging hopper should not be within jumping distance of any projecting point they are able to reach. The round disc on the wire is a piece of smooth tin. A small hole is first bored through the centre, and it is threaded on to the wire before the whole arrangement is suspended.

The Larger Birds

In aviaries given over to large birds, such as Magpies and Jays, the food and water vessels should be placed outside, and the birds made to pass their heads through to feed and drink. Such birds are so full of mischief that it is almost impossible to let them have a vessel of any kind inside—they appear to be under the impression such are put there simply to provide them with fun and amusement; besides, it is well to have these vessels handy and easily got at. The largest pattern glass hoppers answer very well for the purpose. They are large enough for ordinary Finches to bathe in, so make capital drinkers for these large birds. They can be hung on wires, in the same manner as is adopted on cages. The only objection to these vessels is that they require some protection from the rays of the sun in the hot summer weather, or the food soon becomes sour and the water undrinkable. Personally I am rather in favour of a boxed-in arrangement, as shown in Fig. 25. It should be made large enough to contain vessels holding sufficient for the day's consumption. It will be noticed that the door does not fit quite to the eaves of the sloping roof;

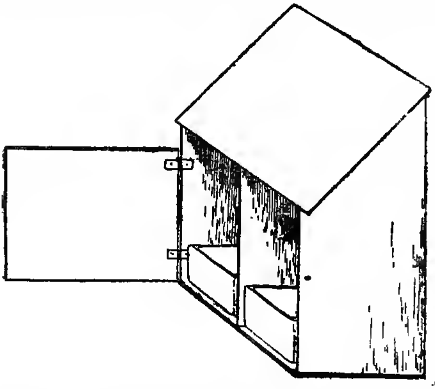


Fig. 25. Outside Food and Water Hopper for large birds

this is to allow ventilation and a free circulation of air. If constructed of half-inch pine it will look neat and tidy, and will protect the contents from sun, rain, and frost. It can either be hung on or fastened permanently.

CHAPTER VIII

Stocking the Aviary

We now come to the important question of stocking our aviary. Some years ago I had one which I used in the summer months solely for the purpose of breeding Canaries, and I have no doubt some of my readers will be inclined to do the same. There is considerably less trouble in this than in pairing the birds up separately in cages. Such an aviary is a constant source of interest and amusement to the family and one's friends, and if we have any artistic taste and decorate the interior to give a semblance of rusticity, we shall ourselves watch with delight the building of the nest, the patient sitting of the hen, the rearing of the young, and the first blundering effort of the boldest to venture out of the nest and discover for itself the wonders of the big outside world.

The holding capacity of an aviary can be roughly gauged for our purpose, by taking the square of the floor, and allowing one bird to each foot. Thus with an aviary measuring six feet long by four feet broad, if we multiply one by the other we arrive at twenty-four, which would give us about the number of birds the place will conveniently hold. But it is always advisable to keep the building understocked rather than crowded. Then, again, if we decide to use it for the purpose of breeding, we must even further reduce the number of inmates, for nothing is more likely to defeat our plans and expectations than having too many birds in the flight. In the spring of the year all birds, no matter the age or sex, are quarrelsome, and ready to upset the harmony of the place, so that any crowding at that time is likely to cause trouble; further than this, one has to look ahead and remember that the young, even after they leave the nest, must be allowed to remain for some time with the parents, and these will consequently go to swell the number.

When to Put Birds In

Previous to putting the birds outside they should be kept for some time in a perfectly cold room with plenty of ventilation. The hens in particular should have as much space for exercise as convenient. Then when there are signs of warm weather appearing, say, in the latter part of April or the beginning of May, the healthy hens may be put into the flight. This should be done in the early morning of a bright sunny day, when by roosting time they will have become somewhat used to the place, and pass a fairly comfortable night, which they probably would not have done if put in later. The hens must be left some time to get thoroughly used to their strange surroundings before we think of turning in their partners; this must on no account be thought of before the weather is quite settled and warm, because as soon as we do so the hens will in all likelihood go to nest at once, and then, if cold, bleak weather comes about, we shall experience trouble with egg-binding and probably lose several hens.

Nesting boxes and pans must be put up in all likely and even unlikely spots; if the interior of our aviary has been made at all decorative we shall no doubt have already thought of the requirements of the birds in this respect. The rounded portions of Virginia cork, and the various crevices, can with a little ingenuity be shaped into the semblance of natural nesting sites. A bunch of heather at the bottom, covered with a little moss, will induce the birds to take to such spots; and by fastening a few rough twigs up to corners of the walls of the building we get very natural positions for the nests of the Finches.

We must on no account turn in our cock birds until we find that the hens are on perfectly good terms with each other. Repeated quarrelling between two birds must be put a stop to by the removal of the chief offender, or we shall find in all probability that later on two hens will select the same nesting site, and then in spite of their being of the gentler sex, it will be war to the bitter end. There is then only one remedy, and that is the removal of one of them. She should be placed in solitary confinement for a week or so, and may then be returned, when in all probability she will be happy and contented with some other spot to build in.

Nesting and Breeding

Canaries as a rule are not good builders, but an ample supply of grass, moss, hair, etc., should be given them, and one should watch their proceedings pretty closely and help them if needs be to make the structure secure and strong enough to stand the wear and tear of hatching and rearing. Sometimes a hen will want to nest a second time in the same spot. In such a case the young should be transferred to a nest box close by. The young ones may be removed from the aviary as soon as they are able to crack seeds, or if there be plenty of room, and they do not trouble the breeding birds, they can be allowed to remain and moult, but will require a little watching, any sickly birds, of course, being removed at once. Canaries are generally considered to be somewhat delicate birds, but I have known them remain without harm the whole of the winter in an outside aviary. Of course they must be liberally supplied with food and water. The latter must be watched closely during frosty weather, and any fresh given to them at such times may be slightly warmed.

No hen bird should be allowed to go to nest later than the beginning of July, for although she might succeed in rearing the young, the season would by then be rather late, and both she and the youngsters would be moulting just as the days were becoming cooler, and possibly have the weather all against them. In breeding this way, just for pleasure and amusement, or perhaps to get a few songsters to present to our intimate friends and sell to others, we need not be very particular about changing the cock bird. If he is a good one. and feeds the youngsters well, we can retain him for another year, occasionally purchasing a fresh one or making an exchange with a " birdy " friend.

Respecting Fresh-Caught Birds

Possibly, however, our aviarist cares nothing for Canaries, his heart and soul being given to the beauties of colour, contour, and song of British Birds. He has here a wide choice, and can easily fill his flight with Finches, Buntings, or Soft-bills. Unless a man is an exhibitor of birds or likes some specially for song, there is no place so convenient to keep our beautiful Britishers in as a good-sized aviary—here we can watch and note their little peculiarities and characteristics. We see them flying and perching, hopping from branch to branch, and behaving generally as if at liberty.

It is a mistake to turn fresh-caught birds of some species direct into an outside aviary. Among the Finches, the Bullfinch, the Redpoll, and the Siskin could, if required, be turned in at once; but such birds as Chaffinches, Greenfinches, Linnets, and Goldfinches should be partly tamed first. One wants these birds to be familiar, so that they may be watched with impunity. A bold, yet quiet, bird is always a favourite with us; we do not want to have to dodge and chase a wild bird round the flight to catch a fleeting glance of him. A really wild bird soon contaminates its companions, and with one such in the aviary, the whole of the occupants dash about like mad things, frightening themselves and spoiling their plumage. A bird that is freshly caught and subjected to the process of taming while in a cage will (unless a very easy subject) fray out or break some of his tail and flight feathers. These should be abstracted before he is turned loose, or he will be a continual eyesore to us the whole of the summer, or until the moulting and growth of the new feathers.

In stocking an aviary with British Birds it is as well to have cock birds only; fortunately they are the most beautiful, and consequently the most desirable subjects to keep. If we admit hens, we admit with them a heap of trouble. No matter what the species, the trouble will be there just the same, especially in the later months of the summer, for, curiously enough, birds in confinement are then at their stoutest and best, and even a common hen Canary turned loose in a flight full of Finches or Buntngs will be the signal for a regular Donnybrook.

In an aviary of breeding Canaries, one may with a certain amount of safety have a single pair of Finches. I have bred Goldfinches and Linnets in this way, although the former were not reared to maturity (yet I have known them to be with other fanciers). Frequently they will pair and nest, but, of course, a watchful eye must be kept on them, as the long beak of the Goldie is likely to make acquaintance with the nest and contents belonging to one of the Canaries; in a large flight, however, this is not so likely to happen as when caged.

The " Boss of the Show."

In a company of birds we shall always find one to predominate—it may take weeks before he actually succeeds in getting the upper hand, but succeed he will in time. And it is not always the bird we expect that becomes " Cock of the Walk." I once had a flight wherein a Siskin was master, although much larger birds were there, and when he unfortunately escaped, a tiny Redpoll, the smallest of them all, took up the reins of government, and by his very persistence and cheek, ruled the roost.

One of my aviaries stocked with a collection of Finches and Buntings has experienced some curious happenings. During the early part of the summer a cock Siskin was the terror of all, with the exception of a stoutly-built Chaffinch, who would stand none of his " cheek." Later the Siskin had to take a back seat, for there was then continual strife between the Chaffinch and a fine Yellow Bunting. The Chaffinch unfortunately took " French leave " one day, without even bidding us good-bye. The Bunting was then " Lord of the Manor "; a bird that few would for a minute suspect of being a tyrant. He first killed the Siskin, then speedily stripped the back of a beautiful Linnet, and would no doubt in time have been, like Robinson Crusoe, " Monarch of all he surveyed," had he not been promptly removed.

These instances show how closely the birds should be watched in an outside aviary, especially if the flight is not large enough to allow the weaker to dodge the attacks of the stronger birds. But generally speaking these unseemly quarrels only take place during part of the summer months, say, during June, July, and part of August, when, of course, the birds go into moult. It is unsafe to put our larger birds in with the Finches and Buntings, and for the same reason the beautiful Tit family is hardly desirable, for although some Tits will live amicably for some time with the others, the slightest sign of ill-health will mean that the Tit constitutes himself chief executioner, and brains the poor invalid on the spot.

Exercise—A Tonic

No tonic will be so good for a bird a wee bit out of sorts as a week or two in the flights. The exercise, freedom, fresh air, and different feeding will work wonders. The latter is not so much actually different seed, as it is seed given under different conditions. There is always a certain amount of scattered food in an aviary, and some of this gets damp and commences to germinate; this the birds peck up, and thus get food as nearly natural as it is possible to give them in confinement.

In using an outside aviary, the British Bird exhibitor will, of course, use a certain amount of discretion. It will, for instance, be unwise to turn in steady birds with fresh-caught specimens, because in such cases the steady ones soon get wild and intractable, whereas the majority of birds, if once accustomed to caged life, and " got to hand " properly, soon become steady again after having had a few weeks in the flight, especially so if the outdoor aviary is situated near the house, where someone is constantly moving about. Wildness is certainly catching with birds, and I always think it unsafe to have a wild, fresh-caught specimen near steady birds—anyway not until he has somewhat "come to hand." So, therefore, the aviary should be used for those of the same degree of tameness when possible.

Utility During the Moulting Season

It will be during the moulting season when the exhibitor will find the aviary of the greatest use to him. Try how we may, it seems impossible to get quite the same colour and fullness of feather upon our British Birds as can be obtained by open-air treatment during the moult. Many of the so-called house moulted Bullfinches are moulted in this manner, but so difficult is it to get this species in anything like good colour, that H.M. birds are becoming somewhat rare on the show bench. Steadiness is a big factor in the successful exhibiting of birds, so that those intended to be moulted outside must first be got perfectly steady. Shy specimens had better be caged moulted.

The birds should be turned out just previous to the moult starting, and should be closely watched. It is a mistake to wait until the feathers are dropping off, as the sudden change will then possibly check them, and bring about an indifferent moult, whereas by turning them out a few weeks previously they get acclimatised and start early. Under such conditions I have seen birds of colour, such as the Goldfinch and Bullfinch, come out splendidly when fed upon canary and rape seeds only, although no fancier would dream of letting his show birds go through on this food The saving of labour is enormous, and the matter of wild seeds simplicity itself—a big bunch hung up or thrown in loosely does for all. The bath is no trouble; one big one daily, and we satisfy a dozen birds at once. And when the moulting is finished what marvellous condition and colour they are in! The birds intended for exhibition should be caught up as soon as possible, and kept in a quiet corner for a day or so, every care being taken not to disturb them suddenly.

Some Desirable Foreign Birds

Outside aviaries may, of course, be used for Foreign Birds. Their varied forms and richly-coloured plumage make them specially desirable subjects to house in a condition as near nature as we can get them. Many are perfectly hardy, and will live through the winter with only ordinary protection, while if suitable accommodation be afforded, some species will nest and successfully rear their young. It is not absolutely necessary to keep a building specially for them, which is a great consideration where space is limited. It will be found that several species will live amicably with our British Finches, and by so mixing our feathered friends one gets a greater variety of colour and form, lending the inmates of the building a greater interest and attraction.

There are many species of small hardy Foreign Birds suitable for keeping in an ordinary outside aviary. Among them are the following :—Bronze and Black-headed Mannikins, Silver-bills, Java Sparrows, Spice Birds, Pekin Robins, Avadavats, Grey and Golden-breasted Waxbills. The following Finches are also suitable :—Zebra, Diamond, Rufous-tailed, Yellow-Rumped and Pectoral; also the Ribbon Finches, commonly called Cut-throats. Most of these Birds, when sufficiently recovered from the journey to this country, do well, and are fairly long lived.

Where a mixed company of Foreign Birds is kept, there is often considerable trouble, many of them proving very quarrelsome. But the following can generally be relied upon to live amicably together. Cockatiels, Budgerigars of both the green and yellow forms. Where Red and Mealy Rosellas, White-eared Conures, and these are kept, it is safer to put in a pair of each species, as an odd bird will frequently prove troublesome. These pretty birds are not safe to keep with Finches; they are sure to cause trouble sooner or later, although occasionally one hears of a fancier who experiences an exception to the general rule. Many birds are perfectly harmless when out of colour, but when in breeding plumage they are naturally full of health and vigour, and consequently inclined to be mischievous.

The following may be relied upon to nest in an outside aviary, thereby adding to the interest of the collection :—White Java Sparrows, Bengalese, Saffron, Grey, Zebra, and Cut-throat Finches. The pretty Bronze-wings are hardly so reliable, but occasionally manage to rear a brood. For nesting accommodation, the interior should be fitted with cocoanut husks, small boxes with a hole in one side. German Canary travelling cages, and one may use suitably-shaped pieces of virginia cork, and so give a rustic appearance to the place. Hay and dried grass are the building materials most in demand, but the ordinary Canary nest-bag with cow-hair, should also be supplied.

CHAPTER IX

Bird Rooms and Bird Houses

There is seen no stronger evidence of the hold the hobby of bird-keeping has upon those who follow it, than in the many shifts and inconveniences they put up with in their efforts to cater for their pets. The kitchen, the scullery, the bedroom, the passages, and even the bath-room have been used by the ardent fancier for the housing of his exhibition stock. One would sometimes think it would be impossible to keep birds healthy and well under some of these conditions, but cleanliness and care will do much, while by many shifts and dodges the fancier tries hard to improve the surroundings.

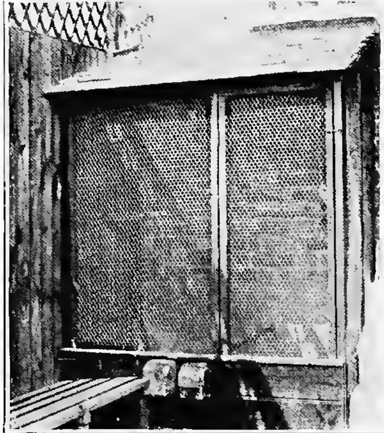
If we can only manage to set apart one room, however small, entirely to the birds, " our lines will run in pleasant places." Such a room must be properly ventilated, fitted, and arranged, and kept in order, for unless these items are carried out satisfactorily, we shall not only be unsuccessful in our hobby, but, what is more, we shall certainly not deserve to succeed. In the room there should be a place for everything, and everything in its place.

Importance of Efficient Ventilation

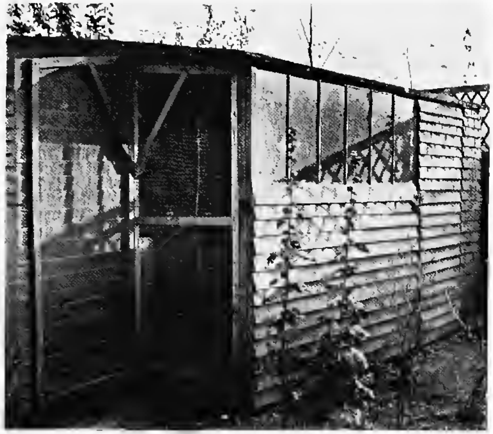
We will first deal with the question of ventilating our bird-room. As this is a matter of vital importance to the health of the inmates, we must be most careful in dealing with it, as birds are such delicate, frail little things, that although pure fresh air is as natural to them as water is to a fish, they are nevertheless quite unable to withstand the effects of a cold current of air playing directly upon them—anything in a nature of a draught will generally have fatal results.

Ventilation means simply the changing of the foul, used-up air of a building for the pure fresh outside

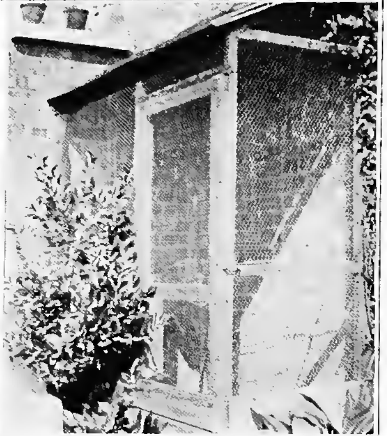
Three Useful and Inexpensive Outdoor Aviaries.



Corner Wall Aviary, designed for a Magpie or other large birds.



Aviary for hardy spicies of British Birds. The inner wire door, to prevent the entrance of cats, is shewn in the photograph.



Corner Wall Aviary, designed for Finches and small seed-eating birds.

element. We must remember that whenever we admit cold air into a room where a higher temperature exists, it naturally sinks to the floor, so that by admitting the necessary pure element somewhere near the ceiling we get it into the room in such a way that it must gradually sink and thus create a free circulation. At the same time we must provide an outlet for the used-up gases, and as this foul air rises naturally to the top of the building, we must make the outlet at the same place. By carrying out this principle we get a free circulation and consequent change of air, and without the fatal draught we wish to avoid. If fresh air were admitted into the building at the bottom, we should by that means get such an inrush that it would be a straight drive out of the ventilator at the top. This would naturally create a violent current which would probably cut short our efforts at cage-bird keeping.

Fig. 26 shows a simple plan of ventilation. The fresh air enters the building at A, sinks to the floor, rises again when warmed, and passes out of the building at the ventilator B. This system is splendid for buildings erected outside, but for indoor rooms, where most fanciers keep their pets, it requires a slight alteration. In that case the air should be admitted at the window; and an outlet be provided by removing a brick in the chimney near the ceiling. The window may be pulled down a few inches and a piece of perforated zinc be nailed over the opening, or a block of wood slipped under the bottom window frame, as shown in Fig. 27.

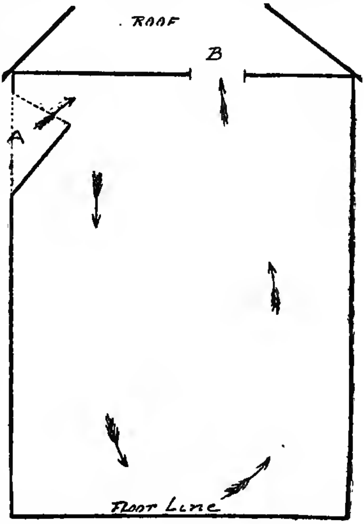


Fig. 26. System of Ventilation.

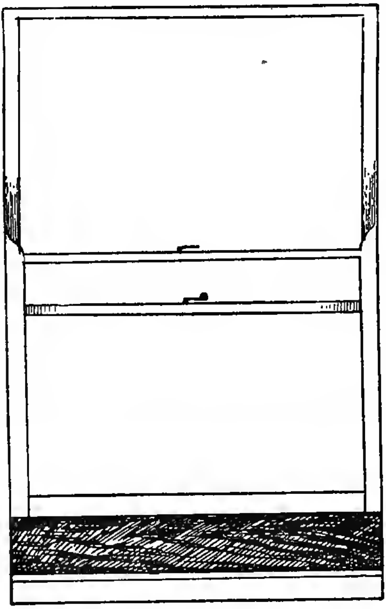


Fig. 27. Ventilation by means of ordinary Window.

For ventilating purposes coarse perforated zinc should be used in preference to wire netting, because by using this one never lets a draught into the room, while at the same time fresh air is freely admitted. Of course, in the height of summer, when all places are stuffy and hot, the extra air admitted by the use of the wire netting would be a great consideration, so that it is a good plan to have two frames made to fit into the opening. Upon one can be nailed the perforated zinc, and on the other the wire netting; these, being interchangeable, can be used as required.

The Heating Problem

With the ventilation problem naturally follows the question of heating. With a good supply of air in a room, heating will naturally increase in circulation, and when we heat or attempt to heat a bird-room we must not on that account shut off the supply of the pure element; on the other hand, we must somewhat increase it, especially if heating powers of a combustible nature are used, because we are by this means burning the life-giving oxygen from the air, and must therefore supply it in greater quantities to make up the deficiency.

Of all heating methods for bird-rooms, hot water is undoubtedly the best, especially when the heat is generated by gas under a boiler fixed outside the room, as it can then be regulated to a nicety. Fig. 28 illustrates this simple form of hot water apparatus. In fixing pipes of this description one must be careful to get them slightly higher at C than at A, because water, when heated, flows to the top, cold water taking its place at the bottom, to be in turn heated itself. Therefore water heated at A would flow gently to C and be pushed back to A by the lower pipe, thus bringing about a free circulation. Without the latter one never gets the benefit of the expenditure of fuel, the heated water simply staying in the boiler at A. Hot water pipe, boiler, and gas, we know, are rather expensive, but if a fancier is at all handy with tools, or has a friend who can give him some assistance, this expense can be cut down.

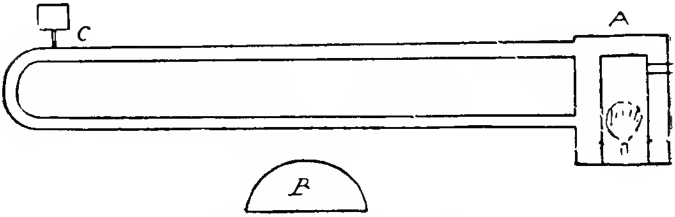


Fig. 28. A Simple Form of Hot Water Apparatus.

It will be found that if pipes are made as shown in the drawing of a section at B, the heating surface is almost as great as that of the ordinary round pipe, but the water contained in the half pipe is, of course, only in quantity half that of the other, therefore there is a clear saving of half the fuel. Such pipes can be made in zinc by anyone able to handle a few tools.

As regards artificial heat for birds, in many cases it is very doubtful if such is required; certainly but little when a room in the house is used. Of course, the situation of the room has something to do with it, but if it is a room over the kitchen, or one attached to another building, heat will only be wanted in the most severe weather, which as a rule we only get a short spell of during the season. Still, it is handy and convenient to have some means of taking the rawness off the air when necessary.

There are many breeders of high-class Canaries who use no artificial heat whatever, beyond just what the room derives from the warmth in the house; exhibitors of some varieties, however, tell us that it is impossible to get good results without it. Anyway, it is a matter in which a fancier must use his own judgment. But for an outside building it is necessary to have the means of warming it if occasion should require. Our climate is so fickle that we may get cold cutting winds in the early summer, just when our hopes are highest, or we may get damp raw weather when our best birds are full in the moult; a little heat to turn on at occasion like these saves us a good deal of anxiety, and possibly loss.

CHAPTER X

Points About the Bird Room

If possible, the Canary breeder should, as before noted have a room set apart specially for his hobby. During the breeding season birds require to be kept quiet, and to be disturbed as little as possible. These conditions cannot be obtained in an ordinary living room or kitchen. I know many fanciers have done well with a pair or two in such rooms, yet there is a good deal of difference between a pair or so which have the best position in the room, and, say, half a dozen spread about anywhere. Where a man is an enthusiast over his hobby, he will manage somehow to secure a spare room, cupboard, or attic for his birds.

An Undesirable Situation

We will suppose we have the choice of the room on the first floor for our birds. The questions of suitability and aspect are what we have to think over and decide. Our house, we will say, stands by itself, and we have the choice of one of the rooms on the first floor—first floor, because nine times out of ten it is an upstair room which can be spared. The windows of our rooms face respectively north, south, east, and west. The north aspect we can write off at once as being quite unsuitable. The room would be cold, sunless, and lacking in light on dull days; the birds would not commence to feed nearly so early in the morning, nor would they continue so late in the evening, as they would under other aspects. Of course, if a north room is the only one available for the purpose, we shall have to make the best of it. But although birds would live in it, and possibly thrive, it is very doubtful whether it would be possible to build up a strong healthy strain in such a position—and it is every fancier's ambition to have a strain of his own. He does not want to be continually purchasing fresh stock to put stamina into his birds.

It is very seldom, however, we get a room that faces due north. It may incline slightly to either the east or west, and this little deviation makes a considerable difference, meaning two or three hours' sunshine in the room either in the morning or evening, when our breeding birds would commence feeding either at the peep of day, or they would continue very late into the evening.

From my own experience I find that birds commence to feed soon after sunrise, and they go to roost some time before sunset, so that the extra light in a room at night is not of so much advantage as the early light in the morning. Looking at it in this way, it appears that for Canary rearing an eastern aspect, or partly eastern, is of more value than one inclined to the west.

When erecting the staging in a north-east room we should, of course, utilise the wall facing the east as much as possible, as this will be the position getting the first morning light. In like manner a north-west room would be best with the staging against the wall facing the west; this during the summer months would get a fair amount of sunshine during the afternoon. In each case due regard must be given to the position of the door.

The East, and the East Wind

A room facing due east is not to be despised, for in the summer months we shall get several hours of direct sunlight early in the morning, and shade during the heat of the day. But the fancier who possessed such a room would have to be an early riser in order to get the full benefit of such a position, or he would have to take the precaution of feeding the birds the last thing at night before retiring. The light would be good all over the room, and the staging could be fixed as would be most convenient, the best positions, of course, being given to the best pairs. It would not be advisable to commence breeding operations very early in this room, for the cold cutting east wind would be sure to find its way in somewhere, and might spell disaster to the breeding hens. We should need to wait until the weather was properly settled and the wind in the right quarter.

When the east wind is blowing, setting right on to the room, it is almost impossible to ventilate as one would wish. The best plan is to do so by means of the door and an open window in another part of the house facing west. In the early spring months a thick curtain or covering of some kind should be put over the window at night, when the wind blows direct towards it; this will be better than using heat, especially before the birds have started nesting.

The Ideal Bird Room

We now come to what some fanciers consider the ideal bird-room—that is, one facing south. The benefits derived from such a room are: plenty of sunshine and direct light, protection from cold east wind and rough winds from the west. It sounds hardly feasible, but in practice it will be found inconvenient to have too much sun. It is beneficial in the winter, the early spring, and in the autumn, when the birds are moulting; but on hot midsummer days it is necessary to have protection, and the only way to effect this is by a blind fixed outside the window. An inside blind is of very little use; it just shields the inmates from the direct rays of the sun, but does not prevent the room from getting stifling hot. An outside blind should be made to work on rollers, so that it can easily be drawn up whenever necessary. As soon as the sun is off the window the blind must be raised, or we lose quite an hour of precious daylight in the evening, when the sun is in the west.

Old fanciers know from experience the evils of an over-heated room. In the stifling atmosphere, when the thermometer registers between 80 degrees and 90 degrees in the shade, it is simply impossible to expect highly-bred hens to fulfil their duties of feeding and rearing young ones. So that although a southern aspect has its advantages, it also has its disadvantages. The latter, however, can be easily overcome by judicious management.

I have known many fanciers very successful in rooms facing the west. The light is fairly good all day, and during the afternoon, when the sun is getting low, there is actually more sunlight, and it is spread farther over the room than it is in one facing due south, while by that time the sun is losing a good deal of its power and does not affect the inmates quite so much. Most bird-keepers, again, are able to give an hour or so to their pets in the evening, and can be on the spot to counteract any overheating of the room, whereas at midday few are able to give them the necessary attention. Of course, many variations of these points will be met with, but enough have been gone into to help beginners in making a choice. Always remember that to be successful one must have light and air.

CHAPTER XI

The Outdoor Bird House

In the preceding chapters we have simply dealt with the bird-room in the house. But for various reasons one is not always able to give up a separate room entirely to one's hobby. To begin with, all of them may be occupied, or, if not, the " good lady " may object to the litter and dirt rising from the keeping of a number of birds about the place. The seed husks blow about, the sand clings to one's boots, or we make a certain amount of dirt when cleaning out and carrying the rubbish through the house.

Under these conditions, if a fancier is determined to continue his hobby, there is no alternative but to build an outside bird-house, and many prefer such a building to a room inside. It has many advantages : we can make it as large as our pocket, or time, will allow; we can walk in and out at any odd times without troubling about our dirty boots; we can ventilate freely, and the birds will be all the stronger for it. The only thing we lose is the heat from the house; but if any outdoor bird-room is properly constructed, it should, without this, be sufficiently warm and cosy.

Convenience of the " Lean-to "

We have already discussed the situations of aviaries and bird-rooms in previous chapters, so that we shall now be able to decide the aspect for ourselves. Our bird-house, as in the case of the aviary we have built, will be a lean-to, because we shall not only find it warmer, but considerably cheaper to erect. Unless we are building against a wall, we shall require to make the whole of the building ourselves. It is very seldom we find an ordinary garden fence fit to form one or two sides to a building intended for the home of high-class birds, for we must put it together as though we were going to live in its ourselves; it must be warm and free from draughts, but at the same time light and well ventilated.

In fixing upon the size of our building we must be guided by our pocket, our time, and the number of birds we intend to keep in it. The smallest bird-house that I ever knew was about 5 feet by three feet, and although the fancier had considerable success in it, there was scarcely room for himself inside, and he always appeared to be much too close to the birds. Still, he did well, for it was a cosy, well-built little place. He managed to put up 8 pairs in it, taking the young ones to another building as soon as they could feed themselves. His cages were simply shelves with fronts fitted, and were taken down in the winter, when two sets of frames with wire netting made two good flights for cocks and hens.

A Convenient Size

A convenient size for a bird-house is six feet by four feet; also six feet by five, or six feet square. In either of these one could put up a dozen to fifteen pairs, and still leave room for a good-sized flight. The building should be constructed of ¾in. matchboard, nailed on to a framework of two inch quartering; or use wood measuring two inches by three inches. It should also be lined with matchboard inside, for extra warmth having either roofing felt or stout brown paper in between. This should be tacked up before the lining is fixed. Some fill the space with sawdust, thus forming a solid wall round the building, but if it is soundly made, a dead air space between answers the purpose equally as well—one might find a difficulty, too, in procuring the quantity of sawdust required.

CHAPTER XII

Method of Construction

We will assume, then, that we have decided to make our bird-house six feet long, six feet wide, and six feet high in front, rising to seven feet six inches at the back. We shall build it in a corner of the garden, with a sound wall at the back and at one side. We must be careful to purchase our wood in the best lengths for cutting purposes. We shall require about six six-feet lengths of timber, two inches by two inches thick (or two by three—whichever we decide to use); four four-feet-six inch lengths; one seven-feet-six inch length; one seven-feet length; as well as one or two shorter lengths. So that if we purchase one fifteen-feet, three twelve-feet, and three nine-feet lengths we shall have quite sufficient for the framework.

For the boarding, both inside and out, we shall require about one square and a half of matchboard, which will be sufficient to cover one hundred and fifty square feet. This we had better purchase in twelve feet lengths, and at the same time get twelve feet of sash-bar for the window. If we decide to tile the roof, we shall require seven twelve-feet lengths of four-inch feather-edge boards, one hundred and twenty ordinary tiles, and seven of the tile-and-a-half.

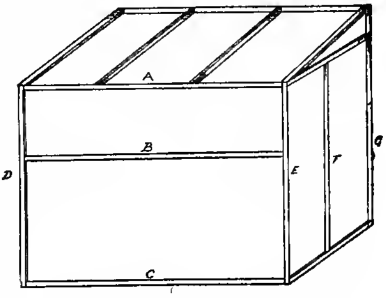


Fig. 29. Framework of Outdoor Bird-room.

Now we have procured the wood the first thing to do is to make the framework for the front of the building. We saw off the quartering the required lengths, that is, five six-feets. Two of these will be for the uprights, and three of them for cross-bars. We shall proceed to join four of them together to form the square frame; but before actually screwing them up, we have to arrange for our window, which will be the whole length of the front, as we intend to have plenty of light in our bird-room.

We must cut the sash-rail as shown in Fig. 29, B, and mortice in the holes D and E to receive it; we must also mortice holes in A and B for the sash-bar, being careful to get them equal distances apart, so that they are opposite each other, or our squares of glass will not fit. It will require a little extra care to put this frame together; the best plan is to put the middle bar into the uprights, fix the bottom bar, put the sashes into place, and then fix on the top bar. See that the frame is square, and then proceed to screw up.

In making the end of the building we have choice of two ways. We can either run the door post up to the roof, or put in a bar at H, as shown in the drawing. This latter method requires just one extra piece of quartering; but we are able to get our door frame perfectly square and the door to fit accurately, which we might not manage if we decided to run the door-post up to the roof. We need not go into the details of the construction of this part of the building, for they will be found in the Chapter on " Aviary Construction."

Having made our two frames, we can fix these into position with just one nail at the top and bottom to hold frame, and to the bar J nailed to the wall at the back of the building. After getting so far we should board the roof, as then we have a place to keep our spare wood and tools in should bad weather supervene before we have finished.

We can next board the outside of the building with matchboard; the latter should be as dry as possible to obviate chance of shrinkage of the wood afterwards. It should be put on upright, getting the first piece into position with just one nail at the top and bottom to hold it while we fix the next piece into the groove. When this is done we can finish nailing the first board, and put one nail at both top and bottom of the second board, and so on.

When we board the front, we only carry the boards up to half the thickness of the bar marked B, and finish it off by fastening a length of bead along, called nosing. This gives a finish to the front, and prevents the rain soaking into the wood and rotting it; or instead of the nosing, we can plane a strip of wood, as shown in Fig. 34, B.

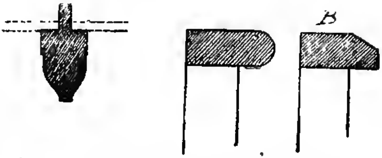


Fig 34 (B) Section of Sash-bar, and Section of Nosing.

In boarding the end we must be careful to cut the sloping top correctly. To do this, it is best to make a template; that is a very short piece of the wood cut to fit exactly, and this can be used when marking the lengths intended to be nailed up. If the wood is thoroughly dry, as it should be, it will be a comparatively easy matter to get the boards tightly together. If it is not dry we shall get wide openings between when the sun and wind thoroughly dry them. In the early spring months, just at the time when we want our house to be snug and warm, it will then be just the reverse.

Making the Floor

We should now decide about our floor. If we are to have cement, we must first ram the earth down tightly and get it fairly level. We ought to have two or three inches of rough concrete first, and then finish it off with an inch of fine, say, one part cement to two parts sharp sand. This should be thoroughly mixed while dry, and then have enough water added to wet it all, but not to make it sloppy. It should be finished off smoothly, and be allowed a day or two to dry; even then it will be advisable to place some rough boards over it for a time, until it thoroughly hardens. This makes a splendid floor of practically everlasting wear, and one which can easily be cleaned with a mop and a pail of water.

The rough concrete can be made by mixing ballast, rough stones, or broken brick rubbish, with cement—four or six parts of rubbish to one of pure cement.

It should be left rough for a day or two, to set, before finishing off with the layer of fine concrete.

Tiles make another good bottom to a bird-house. They should be procured 6 in. square. In the trade they are called quarries, and are made in red, blue, and buff, and can be bought for about 25s. per 100. This quantity would be sufficient to cover our floor. After ramming the earth tightly and level, we may lay these at once, using a little fine sand for levelling purposes. But if laid permanently, they should be bedded in, in about an inch of cement and fine sand. The joints can be filled up with the latter, and the whole washed clean before it is thoroughly dry.

The simplest floor would be one made of wood. The wood sold for this purpose is called flooring, and can be purchased in twelve feet lengths, one of which, when cut in half, makes two lengths of our building. The flooring can, of course, be nailed on to the bottom bar of the framework, but it will be as well to have an extra length or two of quartering across, to strengthen the whole and make it firmer to walk upon. When we have done this, we can board up the inside, cutting the wood carefully, so that it just fits where required.

The Advantages of a Ceiling

Although a ceiling is not an absolute necessity, it has many advantages to recommend it. It looks clean and tidy, lends a finish to the interior, and keeps the building much cooler in the summer, and warmer in the winter. A sliding ventilator can be fixed in it, an exit for the foul air being placed above it, in the end of the building. This ceiling may be made of matchboard, and is as easily fixed as the other boarding. The value of a ceiling in the hot summer months can hardly be over-estimated. The difference in the temperature inside the building and above the ceiling is considerably more than one would imagine. I have known a bird-house very much improved by having a ceiling fixed in. It helps to prevent the greater difference in temperature between night and day, keeping the same much more even, and consequently less trying to the birds.

Our door will be made of several lengths of matchboard, screwed to three cross-pieces, and instead of double boarding it, we shall line it with thick felt, which will be lighter and less clumsy.

Painting and Ventilating

Our building is now ready to paint, and it would be advisable to give it at least two coats before we fix in the glass. When buying the glass it is as well to pay a little more and have it fairly thick; the thickness called "twenty-one ounce" would do nicely. It is not so likely to get broken, and will keep out the weather better. It should not fit too tightly, or in frosty weather it is liable to crack. Place some easy working putty round the frame first, and rub the glass down on it tightly, keeping it in place with a few brads. Do not putty over the front of the glass, for where this is done the water gets down behind and rots the woodwork. After the glass is fixed, the whole should have two more coats of paint. When doing the sash-bars the brush should be allowed to run over on to the glass about half an inch all down; this helps to keep the wet out, and stops the putty crumbling.

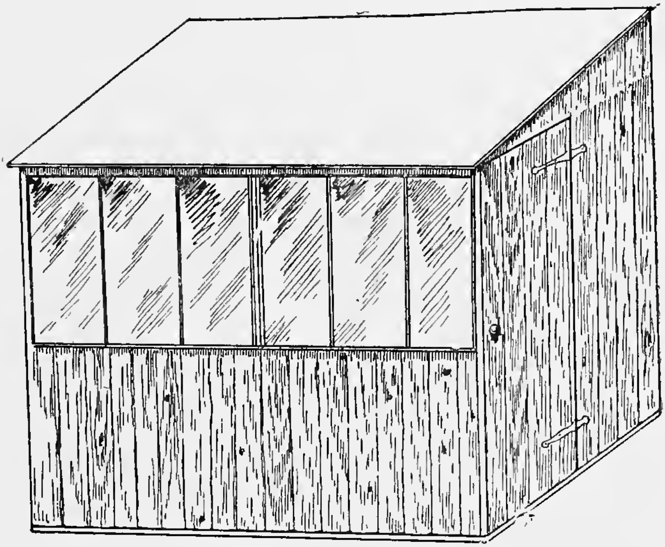


Fig. 30. The Completed Outdoor Bird-room.

I have said nothing about a ventilator for the admission of fresh air. This can either be fixed in the end; or one of the openings in the window can be used for the purpose. See Chapter IX. and Fig. 26.

The bird-house we have described would be suitable for almost any birds, because, if necessary, we could heat it for the more delicate species. If it is our desire to use it exclusively for hardy British or Foreign birds, however, we must then make an extra door frame, out of light 1½ inch wood. This we shall cover with half-inch wire netting, and fix it to open inwards, the opposite way to the ordinary door. During most days this may be closed, and the outside door left open, so that the birds are practically in the open air. See centre photograph in the plate facing Chapter XIII. A wire door is also very useful (no matter of what species the inmates of the bird-house may be) to prevent the escape of any that should manage to get free, either accidentally, or during cleaning operations—many birds have been saved by this very simple device.

Unless one feels inclined, it is not absolutely necessary to double board a building kept expressly for British birds. Being hardy, they are better able to withstand the cold during the winter months. But at the same time some of them are very susceptible to draughts, and it is as well not to run risks. One boarding should be sufficient if properly fixed. If a house is built expressly for them it should have the window frames slightly larger, so that the birds are able to get more light and sunshine; then, with plenty of fresh air, they will moult out good in colour and plumage, and keep healthy all the year round.

CHAPTER XIII

Fitting Up the Staging

The most important item among the fixtures of the bird-room is the staging. It should be simple and strong, and properly fixed, with no unnecessary timber about it. In going the rounds of different bird-rooms, one will see many kinds of staging. Some bird-lovers will be content with simple shelves, fixed at various distances from each other, while others will hang the cages on nails driven into the wall. Some place their cages one upon the other, when to get at the bottom one they must move all those above—not by any means a desirable thing to have to do. Good staging, however, may occasionally be seen, evidencing thought in the design, and care in the construction.

The bird-keeper should be careful to have as few harbours for red-mite as possible, so simplicity must be the first consideration in the design; further, it must be light, and yet strong enough to bear the weight of several cages. What is actually required is something upon which the cages can be placed, one tier above another, and yet each cage be easily handled. After all, it is doubtful whether anything can be more simple than an ordinary shelf, but one's difficulty lies in the fact that to fix these securely the wall has to be damaged, and requires a good deal of repair should the room be wanted for another purpose.

Uprights, with screws in them to lodge the sides of the cages upon, make about the very best staging, but here the great difficulty lies in the fixing of them. If we screw the bottom of the upright to the floor, and wedge the top at the ceiling, we shall possibly do some damage, besides having to run the risk of the whole stack of cages some day collapsing, through the slamming of a door, or the passage of a heavy vehicle (possibly a steam roller) down the street.

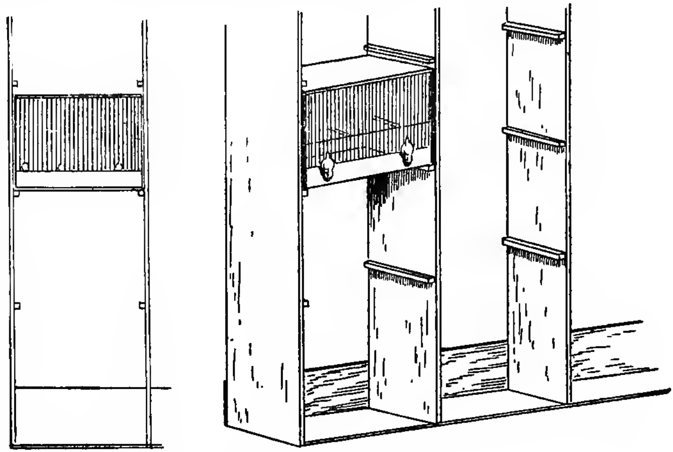


Fig. 35. Staging for Bird-room, showing a cage in position.

A simple, yet strong, staging can be made in the following manner :—Procure some boards, one inch in thickness, and seven or eight feet in length. To these nail one inch strips of wood at distances corresponding with the height of one's cages (see Fig. 35), allowing an inch or so between the top of the cage and the strip of wood above it. The boards will serve for the uprights of our staging; they should either be fixed to the floor, or to another board at both top and bottom. The distance apart of the uprights will, of course, be regulated by the width of our cages, which should slide in and out easily without fear of becoming fixed or jammed—a little dry black-lead rubbed along each strip will help to make them run easily.

This staging can be made of any length to suit the size of our room, and the requirements of our stock, and can be made to carry two, three, or four rows of cages. Its simplicity is greatly in its favour, and its form does not tend to the increase of the dreaded red-mite.

Another way is to have pieces of board, a shade larger than our cages, to fasten between the uprights (instead of the strips). But insects will then often gather thickly underneath the bottoms of the cages; the strips are much the better, as they leave little space for the insects.

After we have put the staging into position, it must be made firm by fastening it to the door or window-frame. If it does not come close enough to either of these to screw or nail direct to it, an iron or wooden rod can be fixed from one to the other in order to steady it.

Staging like this is not at all difficult to make, and has the merit of being easily taken down and put together again for cleaning purposes. Further, if the cages are made uniform in size, they will be interchangeable, and the birds can be moved into different positions whenever thought necessary.

Flight Cages Recommended

In every bird-room there should be flight cages, or a small flight or aviary. They are not only very handy to put several spare birds or young ones into, but can also be used as flights for the stock birds during the winter months. Flight cages should not be less than 30 inches in length, or they lose their distinctiveness, and become merely ordinary cages. The proper flight cage is one large enough to enable the birds to take more than the ordinary amount of exercise—that is, more than they would obtain in an ordinary cage.

It is only during recent years that the majority of breeders have come to recognise the importance of exercise upon the health of their stock. In consequence, however, few bird-rooms are now found without large flights or aviaries. We all know the importance of allowing the stock hens as much freedom and exercise as we possibly can during the winter months. In these flights they build up their strength and lay in a reserve of stamina for the coming arduous breeding season; they, beyond this, greatly influence egg-production and the prevention of egg-binding. Therefore, in planning the staging and fittings of our bird-room, we must remember to reserve an odd corner in which to fix up a flight for the birds.

CHAPTER XIV

How to Fit Up the Bird-Room

After selecting the room in the house best available for the purpose of keeping our birds in, we have to consider the best way of fitting it up, so as to make the most of the space. This is a matter we should give a certain amount of thought and consideration, because in most cases it is impossible to spare the room most suited to the birds—it is generally the lot of the birdie enthusiast to have to make the most of what he can get, and be thankful for small mercies.

In our school days we remember it was the rule to give examples of the working of certain sums that were never likely to be met with afterwards; but in dealing with the work of fitting rooms, we shall take for examples rooms that are in actual use, and are therefore likely to be met with almost anywhere, if not to the actual measurements somewhere near them.

A Room Considered

Room 1, depicted in Fig. 31, is a small room facing the west, measuring seven feet six inches by six feet six inches. Now the first rays of sunlight come into this room from the south-west, in the direction of the arrow shown on the plan, consequently the wall A receives the best light of any in the room. This is unfortunate, for the door, opening inward, practically

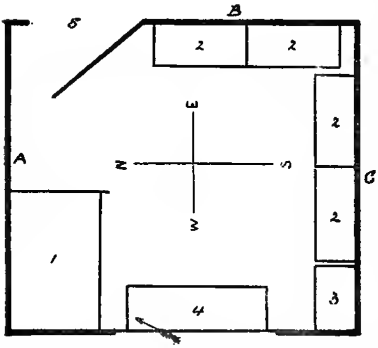


Fig. 31. Staging for room facing west.
1. Flight. 2. Cages. 3. Cupboard.
4. Table. 5. Doorway.

prevents one utilising this wall for staging. If one did there would be a great risk of draughts from the door, as there would always be a current of air from the door to the window, and in windy or rough weather this would be positively dangerous. So we must give up the idea of staging this side of the room. and make the most of the walls B and C.

On wall B we have 4 feet 6 inches of space. Here we shall be able to fix staging to carry two two-foot cages (or a shade larger if thought desirable). Three tiers will afford us a stack of six breeding cages, and a top or bottom flight the whole length of the wall. In practice it is hardly desirable to have breeding cages placed very high, near the ceiling, or very low, near the floor; but a flight may be placed in either position. Upon this wall we shall have no trouble to fix our staging, as one end will come against the door frame, and a couple of screws will hold it secure, but we must not forget to nail a strip of cloth over the joint of the door (the crack) to prevent draughts. These cages will contain our best birds, as they will receive a fair amount of light.

Now the wall C is the best wall in the room for space, but the worst for light, consequently we are unable to use it to the extent it deserves. If we limit our breeding operations we can manage very well by erecting a stage for a single tier of cages, which would only account for a little over three feet of the wall space. But as even in that case we should have a great deal of room to spare, and should require cage room beyond the nine breeding cages for young, and extra stock birds, our best plan would be to erect yet another staging, an exact copy of the one against the wall B. This would catch the most of the light, and would leave a space of about 18 inches as storage for show cages, or any other purpose.

We have still the wall A left, which receives most of the sunlight, and it would be a pity to fail to utilise this in some way. But as the door opens inward, it does not leave much of it for use. Still, considering its importance, it would be well to erect a flight from floor to ceiling, 3 feet in length and 2 feet in width. In doing so, however, we should have to completely board up the side facing the doorway.

Against this boarded side we could make a cupboard, which would also act as a table, 18 inches square; or a corner cupboard would allow a little more space, although we should not get so large a table top. The latter drawback could be overcome by having a board eleven inches by one, and three feet long, fastened to the woodwork at the bottom of the window frame. This, by means of hinges and with a moveable support in the centre, would act as a table when required, and could be put down when not in use. A small cupboard could also be fitted in the corner of the room, on wall C.

Unless the bird-keeper's stock is a large one, it would be better not to use the wall A except for the erection of a cupboard and table, for if all the appliances incidental to the cage bird cult have to be contained in one room, part of the spare space would be wanted for packing cases, cages, etc., and nothing could be worse for the well-being of the birds than a crowded room. A glance at Fig. 31, which is drawn to scale, gives one an idea of the floor space left if wall A is utilised.

Making the Best of a Small Room

Room 2, Fig. 32, is a very small space, four feet six by six feet, and not one of the most desirable for our purpose, but assuming it to be the only one available, we must make the best of it. As in the case of Room 1, it will be seen that the best wall is again, unfortunately, between the doorway and window. Although we might possibly make use of this wall in Room 1, it would be impossible to do so with high-class stock in the room we are now considering.

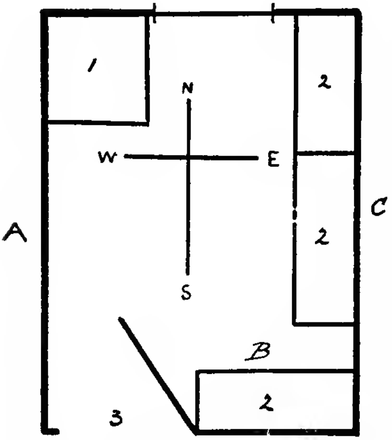


Fig. 32.

STAGING FOR ROOM FACING NORTH.
1. Cupboard. 2. Cages. 3. Doorway.

In the spring months (the most critical of the bird-keeper's season) it will be absolutely impossible to prevent the piercing north-east wind finding an entrance, and as there is no fireplace as an outlet, it must necessarily make its way out by the door, cutting keenly against wall A; and as the room is small, we must give up all idea of using that wall. On wall C we have room for staging to contain six cages—that is, three rows, one tier of two feet and one of two feet six inches.

Wall B, which faces the window and receives a very good light, has only a width of two feet three inches, the rest being taken up by the doorway. This is not enough for use as a flight or aviary, so we must arrange another stack of three cages here, which we shall be able to make about three inches longer than some of those on wall C. The only space available for flights is either the bottom or top of the staging of this latter wall.

The corner of wall A we shall, of course, fit up with a cupboard, or shelves, to hold the usual bird-room appliances. But these must be made as compactly as possible, or we shall not have much space in the room for ourselves when attending to the wants of our pets. In this room we shall find a shelf fixed over the door of great use for packing away spare cages, or a good-sized travelling case.

A Room Which Gives No Trouble

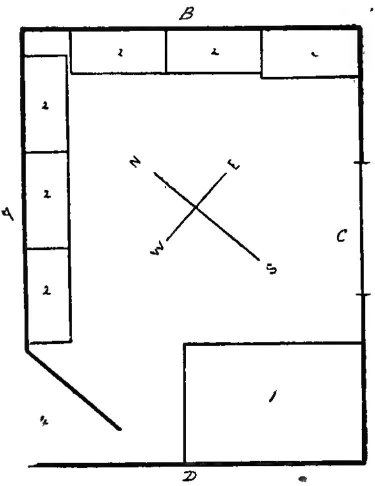


Fig. 33. Staging for room, facing south-east.
1. Flight. 2. Cages. 3. Cupboard. 4. Doorway.

Fig 33 depicts a plan of another Room, in which we shall have no trouble in deciding upon our staging, because we have plenty of light on all the walls. The aspect is south-east, consequently we get the first light of the early morning, and a continuance of sunlight for several hours.

This room has a fire-place on the side marked B, which we shall stop up, as we cannot spare the space to use it for its proper purpose. On this same side we have a cupboard rising within two feet of the ceiling. It has shelving and a proper cupboard-door, and we shall, of course, use it for the storage of appliances and seeds.

Our plan for this room will be to erect staging on the walls A and B, to contain 9 cages on A, and 6 cages on B. On wall D we shall erect a flight. It will be between the door and the window, yet the aspect is so different that we can do this with a fair amount of safety. In addition, we have an exceptionally wide recess behin dthe window and this wall, so that by fitting it as advised in Room 1, we make a very useful flight.

In giving these examples of bird-rooms we do not by any means exhaust all the conditions that might occur. With the bird-keeper the attic, or room in the roof, is a favourite location for the bird-room. In this the light generally enters at the top, consequently the erection of the staging is not by any means a difficult matter, as a top light generally floods the whole of the wall space. In very large rooms it is best to have the staging in the middle, running from side to side, facing the light. In this position one is able to get behind the cages and paint them with red-mite destroyer at any convenient time.

Catching Birds From Flights

In the making of aviaries or large flights, due regard should be given to the catching of the birds when necessary. The best way to manage this is to have a small compartment at one end, for food or water, and so arranged that a door or slide can be quickly shut on the birds requiring to be caught. When it is desired to catch any particular bird, we can take away the food, or water, for a time, and return it again in an hour or so, when we shall find it easy to shut in the one required. Catching show birds from a flight or aviary is a dangerous proceeding, and many a promising bird has been " tailed " and consequently rendered useless for exhibition purposes for several weeks, as a result of a slip made in trying to secure it.

CHAPTER XV

Concerning Cages

A work of this kind would hardly be complete without a few remarks respecting cages. Some years ago it was a most difficult matter to get the necessary wood for the purpose of making them. Many were made from material quite unsuitable, and they were in consequence clumsy and difficult to handle. The wire, too, had to be straightened with a hammer, or by a wire straightener, an implement everyone was not able to manage properly.

This is now all changed. The handy bird fancier who cares to make his own cages can easily procure the necessary materials. The boards for the purpose are constantly advertised in the columns of " Cage Birds." These are specially selected, and cut into various useful lengths, but if the fancier desires some superior sort of wood he may obtain it at most wood yards. The best timber for the purpose is American whitewood, which can be bought of any thickness, and in almost any length. It is easily worked, is free from knots, and if desired can be stained and polished to resemble oak, mahogany, and other hard woods.

When putting cages together, oval brads should be used in preference to other nails; they are easy to drive, hold well, and do not show much. To make a good job of cage work, the joint at the back of the cages (where two boards have to be used) should be glued, which makes it much sounder, and does away with one home for red-mite. If we decide to use whitewood, this may often be obtained wide enough to make the back of the cage, thus doing away with any necessity for the use of glue.

The wiring operation, which caused so much trouble in the old days, is now very much simplified, for the wire may be purchased in long lengths, ready straightened, so that one can cut it up to the length required. To use this we can now get flat punched bars (that is, flat bars with holes punched in them) to use as cross-bars, doing away with all the trouble of binding with thin wire, which, to the amateur, was a tedious job, and usually ended in making his fingers very sore.

When the lengths are cut off and put through the bars, the whole should be fastened upon a board with a few nails, and when in position, and perfectly square, a little solder should be run down the flat bars. If the fancier is unable to use a soldering iron, ten minutes spent with a fellow fancier who can do so will be more useful to him than pages of written instructions; it is a good deal a matter of "knack," and a little practice soon makes perfect.

When a bird-keeper is able to make his own cages, he can, of course, follow his own ideas as to size and shape much better than otherwise. Naturally, cage makers make stock sizes, although no doubt they would be willing to execute an order for a dozen or so to a fancier's own design if one required them.

With regard to show-cages, it is policy to buy from the regular makers. They turn them out lighter and stronger than the ordinary fancier can. Still, cages for exhibition British birds are quite another matter, as these vary considerably in size and shape. We are able to purchase a Blackbird's or Thrush's cage for exhibition purposes better than we can make it. But some of us have our own ideas as to the cages most suitable for a Skylark, Wagtail, or small Soft-bill. When making stock cages always have them as large as one can possibly find room for, providing, of course, they are not so large as to be clumsy, or bad to handle for cleaning purposes.

Various Appliances Needed

When indulging in any hobby we naturally must have certain appliances, and the more thorough we are, and the more we go into the matter, the larger and more varied will our stock of appliances be. The bird fancier is not by any means exempt from this rule, and he needs a considerable amount of room to stow his impedimenta away.

The seed which is bought in bulk must be kept in a receptacle fit for the purpose, but where it is bought by the sack or bushel, there is nothing to equal a new galvanised sanitary dust bin, such as is used by every householder. It is clean and rat and mice proof, and prevents the seed from becoming damp and musty. For smaller quantities, tin biscuit boxes answer admirably, and are easily obtainable. Small quantities of the choicer seeds can be kept in clean jam or pickle jars, which should be perfectly clean and properly labelled. A seed sieve, or sifter, is absolutely necessary, for there is nothing to equal the hand sifting of seeds, as no matter how well it is supposed to have been cleaned, we can always manage to get out a little more dust.

Where a lot of birds are kept, and breeding operations carried on to any extent, a grinding mill will be more than useful. These are now fairly cheap, and made in several patterns. It is as well to purchase one direct from someone who advertises them expressly for the bird-keeper, as they are not all quite suitable for our purpose.

A good supply of enamelled baths should always be kept, as bathing the birds singly is a long job, and involves considerable loss of time, whereas if baths are hung on the fronts of all the cages at once, some one or other of the inmates is sure to use one at once, and the others cannot resist the temptation of having a dip when they hear him shake his feathers.

During all the years I have been bird-keeping I have never been able to buy a decent scraper. They are generally made much too flimsily, and so quite unsuitable for the purpose. The best plan is to get a couple specially made out of fairly stout sheet iron, with 18 inch handles to them. These will last for years, and are quite a pleasure to use.

Before closing these pages just one word must be written concerning the condition of the bird-room. From some the odour has been known to pervade the whole house. This should not be. No one should keep more stock than he is able to properly manage and care for. Let everything in the room be perfectly clean, and let tidiness reign everywhere. When a jar or box of seed is used, put it back in position afterwards. Let there be a place for everything, and everything in its place, so that a friend or fellow bird-keeper may at any time visit the room without one having to make excuses and apologies for its untidy condition.

With the room and its contents kept as they should be, our hobby will prove a continual source of pleasure and enjoyment, and the hours spent with the birds will be hours of rest and recreation, and of relief from business worries.

CHAPTER XVI

Cages and their Making

Years ago, when first I commenced in the delightful hobby of bird-keeping, one was able to purchase two of three patterns of cages only, all of which were more or less unsuitable, and have since had to give place to cages constructed with more thought for the purpose for which they are intended and consideration for the comfort of the inmates.

The old " London breeding cage " held sway for a number of years. It was designed expressly for breeding purposes, the main portion being for the use of the adult birds, with two small nesting places at one end, near the roof, and a " nursery " underneath these, the latter divided from the main part by a wire and wood slide, the old birds feeding the young ones through the wires of this slide.

The London breeding cage had many faults, chief of which being the many crevices and corners wherein the red mite bred by thousands. The nesting boxes were not easy to get at, and it was not until the end of the season that one was able to give this part of the cage a thorough clean out. Another great fault lay in the small size of the nursery.

The Single Breeder

It is a rather curious fact that the improvement in design and utility of the breeding cages came from the bird-breeders themselves, and not from the bird-cage makers. Indeed, some time elapsed before one was able to induce a maker to make anything but the old-fashioned article. All sorts of excuses were put forward for not doing so, and it was not until they found bird fanciers preferring to make their own cages that any effort was put forward by the trade to cater for the Fancy properly.

An ideal breeding cage requires to be roomy, light and airy, to be easy to thoroughly clean, and to have all parts of the interior easily accessible. A single breeding cage is in reality an oblong box with a wire front, with one, two or three doors. For the purpose of cleansing, all cages should be fitted with movable wire fronts. Fig. I shows a single breeding cage. This should be about eighteen inches in length, fifteen inches high, and eleven inches wide. The doors are fitted as follows :—One in the wire front to hang a bath at, and one above the cross-bar, opposite the nest. This latter door will be found of considerable convenience when attending to the nesting birds.

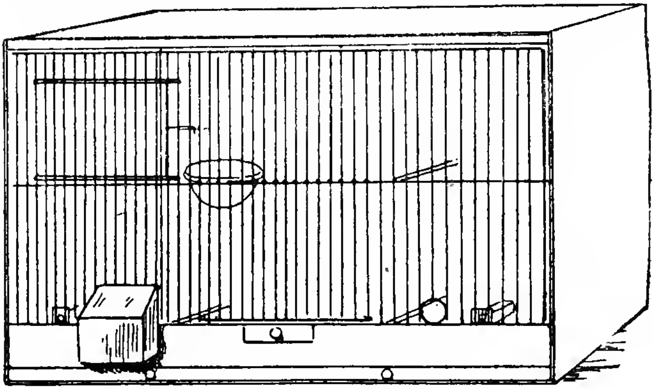


Fig. 1. SINGLE BREEDING CAGE.

Suitable pine can be everywhere purchased for making this cage, eleven inches in width. But it is well to have the back in one piece, and as pine cannot be bought so wide, American white wood (easily obtained) should be used. This makes a perfectly sound job, and prevents an unsightly crack right across the back of the cage, for even if a joint is properly glued up, it is likely to " fly " in hot, dry weather.

The seed box, drinker, and egg drawer should all be placed in the front, as being easy to attend to and to keep clean.

For use with this cage a small " nursery " will have to be made. This should be about ten inches square, the wiring at front being wide enough to allow the old birds to feed the young through the wires.

After the breeding season, this breeding cage will be found useful as a moulting or stock cage, and is not too large for a single bird to be placed in for a time, either previous to, or when returned from a show.

Two and Three-Compartment Breeders

In many bird-rooms the double breeder is very much used. It slightly economises space, containing two pairs of birds instead of one, and as a stock cage will hold five or six birds, at a pinch, for a time. It should be made not less than thirty inches long, and the same width as the single breeder, but an inch higher, as being of better proportion to its length.

This cage must be fitted with a movable partition in the centre, as it will sometimes be required for a single pair, or for two hens, or to be used as a flight. Doors in the wire front will, of course, be fitted at each end, so that they may be used for either compartment, and the other fittings, such as seed hopper, water tin, egg drawer and perches, must also be duplicated.

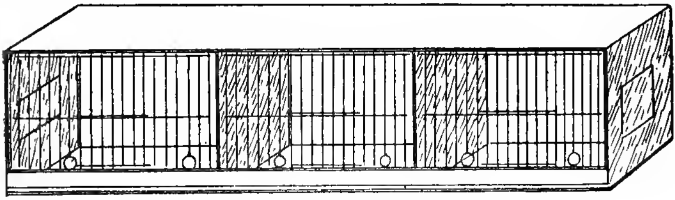


Fig. 2. THREE-COMPARTMENT BREEDING CAGE.

Fig 2 shows a three-compartment breeding cage, and I am inclined to think that, next to the single breeder, there is no more useful type of cage to be found. It may be used for two or three pairs of birds, for running a cock bird with two hens, or for running a Finch with two hens, while it makes a capital flight for Autumn and Winter use.

Should anyone desire to make a few single bird cages, he will find the following a useful size:—Fourteen inches long, twelve inches high, and nine inches from front to back. Two perches will be found sufficient, that is, one running from side to side about two inches or so from the front rail, and the other about seven inches in length, fastened to the cage back, but not reaching so far forward as the wire front. If a hole be bored into the back of the cage the same size as the perch, and a little glue be placed on the end of the perch when fitting up, this will keep it safely in position.

The Much-Debated "Back" Cage

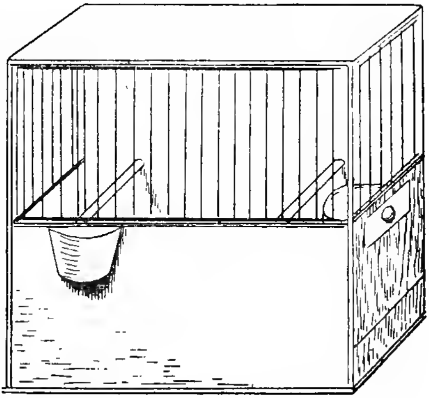


Fig. 3. Improved "Back" Cage.

We have considered the stock cages for Canaries, and must now deal with those required for British and Foreign birds. The commonest of these is the "back cage" of the bird shops. It is curious that a cage of this design and size should have existed for so many years. I have never yet met anyone who has been able to even hazard a guess at the number of years this cage has been in existence. But I remember once seeing a very old oil painting depicting a man watching a bird singing in a battered cage of this type; the figures were in a rather untidy-looking room, with one or two cooking utensils hanging upon the walls, showing plainly who were the bird-lovers in olden times, and that the pet of the household had his home in the kitchen.

Every bird-keeper is familiar with the back cage, so that there is no need to describe it. I think it is chiefly popular because it takes up very little room, and Finches will soon become fairly steady in it. Instead of using these cages as usually made, if Fanciers were to make some a trifle larger, that is in width and length, they would find them to be extremely useful; further, they would allow their inmates a little more room for exercise.

Fig. 3 shows a cage of the enlarged size. Some I made like this were quite a success. The actual measurements were as follows :—Nine inches long, eight inches from top to bottom, and six inches wide. The front board should be three and a half inches deep. The front of the cage only should be movable; the sides are fixed wire, or wood, if preferred. In the ordinary back cage there are little fillets of wood just under the top; these should be omitted, as they only harbour the red mite.

Stock Cage for Finches

Our next illustration, Fig. 4, is of a stock cage for Finches. I must confess that although I have repeatedly recommended this description of cage to

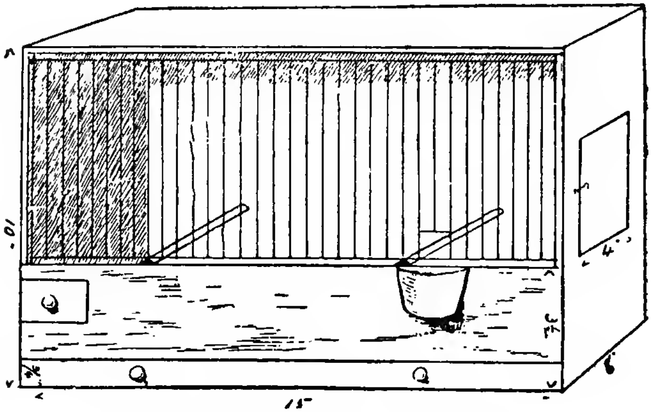


Fig. 4. Stock Cage for Finches, etc.

bird-lovers, it is not my own idea. I first saw one in the room of an ingenious Fancier, who had made it out of an ordinary margarine box, with a piece of board along the front and two perches running from the top of this to the back. It is about as simple a cage as one can possibly make, yet it answers its purpose admirably, and I and others have now used it for many years.

The wild bird is boxed in without too much light, and his perches are on a level with his water and food. A little drawer in one corner, or even a piece of wood about one inch high nailed across one end, makes a capital seed hopper, and one easy of access by the bird.

This stock cage should be made of nine-inch pine boards, which can be used for top, bottom, and the ends, with a length of eleven-inch board for the back. When the edges of these are planed smooth they will be about half an inch less, which is a slight advantage, as a very deep cage is not always desirable. The front rail should be about three inches deep, so that the wire front will not need to be very large. A door at one end will be found sufficient. It will be noted in practice that the oftener a bird is run from one cage to another the better. Therefore, when cleaning out, or giving it a bath or spray, run the bird into another cage kept for the purpose. The other can be cleansed so much better with the occupant away, and he is not so likely to get a fright.

For Large Softbills

Most bird-lovers include a Thrush, Blackbird, or Starling among their stock. The old-fashioned Blackbird cage is a thing of the past so far as the experienced Fancier is concerned, but many of these obsolete wooden arrangements, which no one can properly clean out, are still sold to the uninitiated. In the matter of cage construction, Fanciers are now guided by common-sense, and make their cages simple and roomy, and so that they may be easily taken to pieces and scrubbed when required—and all cages require a good scrubbing occasionally.

Fig. 5 illustrates a Thrush, etc., cage for general use. It is quite a simple affair, yet answers the purpose admirably. Its proportions are :—Length twenty-four, height sixteen, and width eleven inches, so that to make it one only needs to get sufficient eleven-inch boards for the purpose. A door should be placed in the wire front for bathing purposes (all Thrushes and the like are exceedingly fond of bathing, and it is well to allow them to freely indulge), and another at one end. A large size tin drinker placed opposite one of the perches, and a large earthenware drawer at the other end of the cage, answer admirably for food and water.

It will be noticed that the perches are fixed in rather unusual positions. But the bird-keeper will soon see the wisdom of this. Exercise is what all birds require, and what they usually get very little of. By placing the perches as shown in the illustration, the bird is constantly jumping up and down, and at the same time lengthwise. In this manner he gets considerably more exercise than he would in any other way in so restricted a space. The wires for the front of this cage need only be about one inch apart, but if likely to be occasionally used for other purposes, then they had better be placed at three-quarters of an inch.

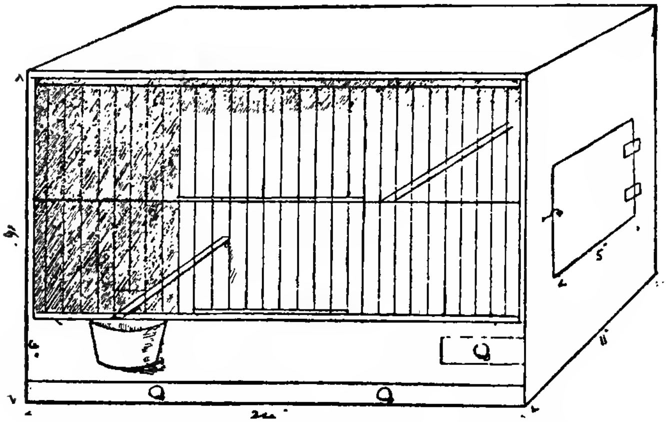


Fig. 5. Stock Cage for Thrush or other large Softbills.

A Cage to Have by One

The bird-keeper will find it a great convenience to possess a cage or two of fair size suitable to run a fresh-caught bird in such as a Wheatear or one of the Warblers. Fig. 6 is an illustration of one frequently in use. Its dimensions are :—Sixteen inches long, eleven high, and eleven inches from back to front. It is thus fairly deep, giving the bird a certain amount of seclusion, and yet open enough to allow him to see and note his surroundings.

These cages should be made of pine, and rather stronger than those designed for special birds, as they get a considerable amount of knocking about, while, being used for fresh-caught specimens and odd birds, they will often want a thorough cleaning. The wires should be placed half an inch apart, with two holes left for drinkers for special purposes; but for general use the food and water vessels should be placed inside —a fresh bird is much more likely to find same there than he is if they are placed outside. This cage should be fitted with two doors, in the usual way.

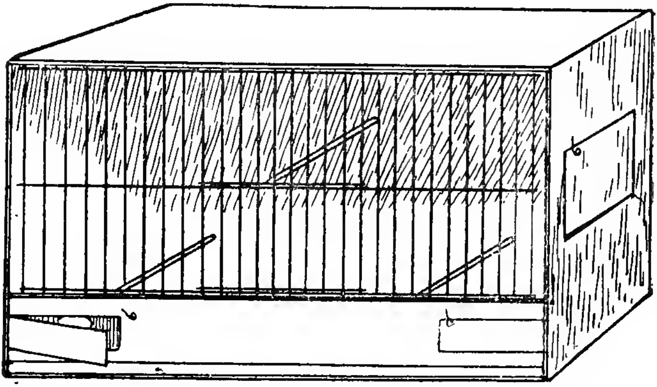


Fig. 6. Stock Cage for small Softbills.

The best method of placing food inside the cage is undoubtedly the one in general use for soft-bill birds. This consists of an opening cut in the front of the cage, about three inches by one and a quarter inches (regulated by the size of vessel fitted to it), into which opening is fitted a piece of wood. A fine French nail, or piece of wire, is then put into the top and bottom at one end, so that it becomes a small door, working upon two pivots, which form hinges. To the interior face of this is fitted a bent wire, to receive the glass or earthenware vessel; a bent wire is also fastened at the pivot end to prevent the escape of the bird during the time the attendant is giving the morning meal. The illustrations (Fig. 7) show interior and exterior views of this arrangement. The former shows the door closed with the wire fixed, but without the feeding vessel. It will be noticed that the safety wire shuts back against the end of the cage, so that it is not in the way of the bird. When opened (Fig. B) this safety wire takes the place of the door, and thus prevents the bird escaping.

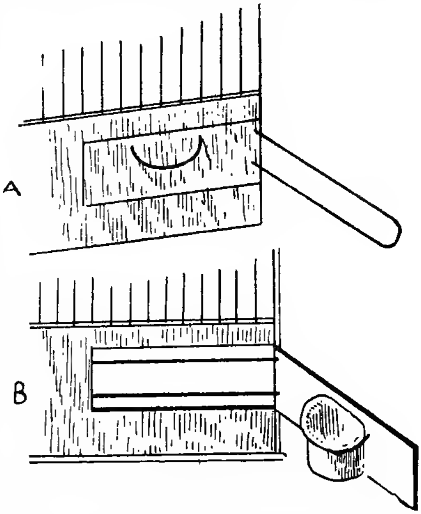


Fig. 7. Showing (a) interior (closed) and (b) exterior (open) views of feeding in cage for Softbills.

These inside feeders and drinkers should be fitted to all cages designed for the more tender soft-bill birds, which cannot go long without food—however careful a Fancier may be, there is almost sure to come a time when the outside feeder is possibly hung in the wrong place, or by some accident the bird is unable to get at its food.

Cage for Fresh-Caught Britishers

The bird-lover who makes British birds his special hobby will require a cage specially designed for the more wild specimens. He will find that some birds may be placed in an ordinary cage (such as we have described) at once, whereas others will show every symptom of fear and nervousness, and quickly knock themselves about, spoiling their plumage, and possibly doing themselves some bodily injury. The cage designed for this purpose is one similar to Fig. 6, but with this difference: it is some two inches less in height, and is fitted with a canvas or calico top.

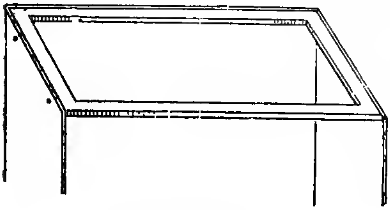


Fig 8. FRAMEWORK OF A CANVAS-TOPPED CAGE.

In making this cage, it should be put together minus the top. A framework should then be made that fits exactly into the space left (see Fig. 8). Upon this should be tacked the canvas, or, which does equally as well, strong unbleached calico. A few small screws through the sides of the cage will keep this framework in position, and materially strengthen the structure. Many wild birds fly direct to the top of the cage when disturbed; the restricted height and the canvas top thus prevent damage being done to them.

The Wagtail's and Lark's Special Cages

Wagtails are most interesting and attractive birds, and to show them to advantage, even in one's own bird room, they should have a cage made expressly for them; one rather long in proportion to its height. A good size is twenty inches in length, ten inches in height, and ten inches from back to front. The front rail should be fitted with food and water vessels, as shown in Figs. 6 and 7. The perches should be kept low; there should be several of them upon the same level, and fitted about two inches apart, as the bird steps from one to the other. An open space of about four or five inches should be left at each end, where the food and water vessels are placed. The door in the front of the cage should be rather wider than usual, say six inches, and a correspondingly large-sized bath used to hang in front of it; if not, the bird may possibly damage its tail, which in a Wagtail is a particularly unsightly happening.

If the owner lives far enough in the country, he will be able to supply his Wagtails, Larks, and Pipits with fresh green turf. In Fig. 9 we see a cage specially designed for this purpose. It is in reality nothing more than the so-called " runner " cage, with just a few alterations. In size it should be from twenty to twenty-four inches long, ten inches high, and ten deep. The food and water vessels are placed in the front rail, one of them at the extreme end, and the other about seven inches from the other end. At the latter end is a low six-inch door, for the purpose of slipping a fresh cut turf into this corner, an inch-wide rail running from front to back keeping it in position. Although some Lark keepers do not agree with giving their pets a fresh turf, the birds appear to me to greatly enjoy it, and will always sleep on it if given.

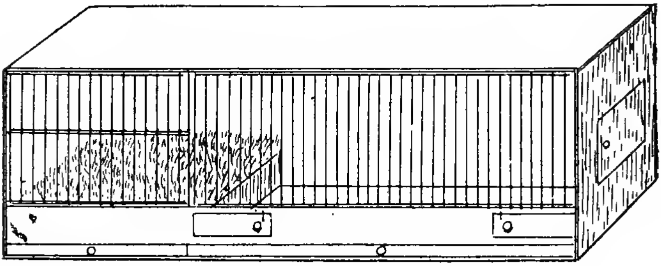


Fig 9. Lark, Wagtail, or Pipit Cage.

A cage of the above description should be made of light pine. As it is just possible it may at some time be hung in the open air, to make quite secure it should be fitted with two holes in the back, to correspond with two nails in the wall. The cage will then hang perfectly level and be thoroughly secure. A couple of square iron brackets fastened to the wall (the cage to stand upon them) will answer the same purpose.

Concerning Drawboards

In describing the different cages, I have made no mention of drawboards; the Fancier can fit them or not as he chooses. Personally, I never use them, but instead fix a rail kept in position by two bent wires. When cleaning their cages out, the inmates are always run into others, which prevents fright, and the cleansing can be done more effectually. The great objection to drawboards is that they are so likely to warp, and consequently fit badly—either too tightly, or not tightly enough, either of which is a cause of annoyance.

Show Cages Considered

It is very doubtful whether it pays a Fancier to construct his own show cages. There was a time when it was impossible to get a cage of any description made strongly enough for use—as the saying is, they were "made to sell." But now things are somewhat altered, we can purchase them quite as strong as we can make them, and considerably lighter. The makers buy the wood in large quantities, and are able to select the lightest specially for show cages.

If the Fancier decides to make his own, he must use the best and cleanest wood he can get (the knots in wood are heavy), and it should not be more than a quarter of an inch thick. These cages should be made strongly and well; in fact, one should put his best work into them.

The dimensions of the ordinary Norwich show-cage are as follows:—Thirteen inches long, twelve inches high, and four and three-quarters from front to back. For Norwich Canaries, Cinnamons, Norwich Greens, Greenfinches, Chaffinches, Bramblefinches, and the large Hybrids, these cages are quite suitable. Goldfinches, Linnets, Twites, Siskins and Redpolls can be exhibited in cages of the same pattern made slightly smaller. The thirteen-inch cages can be used for the Buntings, and an inch more space given for Hawfinches and Crossbills. One of our leading societies advocated cages for British birds with a bow part at the top, but I find Fanciers are gradually drifting back to the ordinary flat top cage. In making these cages the small oval-headed brads should be used in preference to any others; they hold very tightly and hardly show, especially if a little black putty is put into the holes before painting.

Show cages for British birds should be in most cases a replica of their stock cages, except that they need not be so large, and should be made as light as possible and as strong. The food and water vessels are best placed inside as hoppers, and tins are so liable to be lost in transit to and from the shows.

Advice to Exhibitors

In all cases the exhibitor should carefully think out the kind of cage most likely to show his bird off to the best advantage. He should take into consideration the natural habits of the specimen, and act accordingly. For instance, it would be useless exhibiting a Wood-pecker in a perching birds cage, or a Lark in one with the back covered with virginia cork—a cage suitable for a Tree Creeper. A little care in this direction is a hint to the Judge that the exhibitor is trying his very best to obtain one of the coveted honours. It may not influence him, but in many cases he stays to have more than a second look at the bird; it prevents its being passed by with but just a glance.

Two Useful Tools

When cage-making a small bradawl will be required. One should be purchased the right thickness, and then about half of it be filed away, to reduce it in length; it will then be much handier to use. A small bead along the front of a cage gives it a finished appearance. A tool can easily be made for this purpose, by simply putting a screw into a piece of wood and filing it down, as illustrated in Fig. 10.

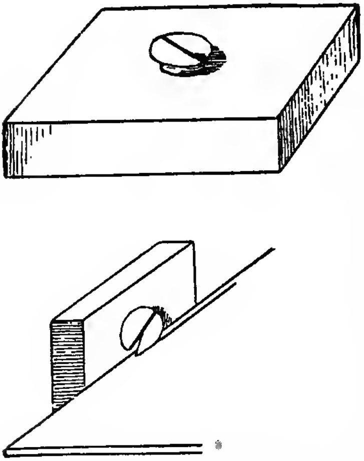


Fig. 10. Home-made Beading Tool and method of using it.

Paints and Painting

We now come to the painting of our cages. Most people like to see everything in the bird-room looking as neat and smart as it can be, for we all experience considerably more pleasure when cages and utensils are somewhat uniform, especially as regards colour, than we do if there be odd ones here and there, some black, some brown—possibly two or three of no colour at all. I am inclined to think that even the stock cages should be coloured to show up the inmates to the best advantage. The fancier likes to admire his birds, and to see they are looking their best when his friends are admitted to the bird room. For Canaries and Hybrids, a pale blue, or blue grey, is as suitable a colour as any, and green shows off the majority of British Birds to the best advantage.

A little thought is necessary before painting show cages. The colour advised by the Norwich Plainhead Canary Club is the egg shell colour of the Hedge Sparrow, but unfortunately no two makers make this blue of the same shade, but even in the exhibiting of the Norwich Canary a Fancier can make the best of his chances by using a little taste. The tone of blue most suitable to a hot fed yellow is not the best for a buff, the latter requires a deeper shade to show him off to the best advantage, so that a Fancier may keep cages of more than one shade of colour with advantage. To exhibit British birds in suitably coloured cages requires even more thought. Most species look best in what I may term a middle shade of green, which is the nearest approach that one can get to a fresh laurel leaf, one taken near the end of the branch, but this colour is scarcely suitable to a greenfinch. Try the bird in one painted a dark holly green, and in another a pale blue grey, almost white. The wires of the front should be the same colour as the interior.

It hardly pays the fancier to mix his own paints, for although they may be more durable than the ready-mixed articles, yet cages do not get that hard daily wear which makes it necessary to have the most lasting material. Ready-mixed paints put up in one pound or two pound tins may be purchased at most oil stores, but these, like everything else, are made in more than one quality. The best paint will only cost another penny or so per pound, and will be found to lay on much more smoothly than the common, besides giving a better finish when dry.

Some Useful Hints

Before using, the tins should be well shaken, and the " bottoms " stirred up with a stick, so that all the contents get thoroughly incorporated. In light paints the thick substance at the bottom is in reality the " body " of the paint, and is therefore very necessary to the mixture. Should it require thinning, a little turpentine and linseed oil, in equal proportions, should be added.

If the Fancier requires the paint to dry with a gloss on it, add linseed oil alone, or oil and a small quantity of varnish. If required without the gloss (called " flat ") add turpentine only; it will then dry dull, and quickly.

When laying on the first coat of paint, put on as little as possible, merely staining the wood. The brushes used should be hogshair, of fine quality—if coarse, the work will look bad, showing the brush marks plainly. When painting, work from top to bottom, or left to right, then with the same brush without paint cross the work lightly, again going over it, in the same manner as at first, and this will give a fine smooth surface. When the first coat of paint is thoroughly dry, another may be put on—still using the mixture sparingly. If a high gloss is desired the work should be lightly rubbed down with a piece of fine sandpaper before proceeding to add another coat.

Some paints dry badly. Of these, black is one, and as this is a colour frequently used by fanciers for the outside of the cages, it is a good plan to first give the work a coat of slate colour, which has considerable body and dries well, thus making a capital foundation for the black

Enamel and Distemper

When black enamel is used, it should be thinned out somewhat with turpentine, if at all thick, and several coats should be given the work, each one being laid on as thinly as possible. The finished article will then be found to look much superior than with one coat laid on thickly.

If a Fancier decides to enamel his show cages himself, he will require to use a little care to get the best results. Purchase the very best enamel of the desired shade, thoroughly clean the cage, and use a perfectly clean brush. Put it on as thinly and evenly as possible, giving another coat if required. This should be done in a hot room, and the cages left in it until they are quite dry.

For the interior of stock cages there is a sanitary washable distemper which is an excellent article for the purpose. This should be put on thickly, two coats being quite sufficient for new work. When dirty, it can be well washed and another coat added. Although this distemper is washable, it will not bear hard rubbing, so that it requires another coat after the periodical scrubbing of the cages.

For the benefit of the uninitiated I may say that this distemper greatly resembles the ordinary lime-wash in consistency. It is what one might term a water-colour paint. It can be purchased at most oil shops (with full directions for use) at about the same price as ordinary paint; but it covers much more space, and is therefore cheaper. It can be procured in any colour, or shade of colour.

The Fancier may at times want to use a little varnish. Oil varnish dries in a few hours in the summer time, and spirit varnish almost as quickly as one can put it on. The difference in the two is this: the oil varnish is elastic and very durable, while the spirit varnish is rather clearer, but becomes, when dry, brittle and hard, and in some cases will chip off.

Staining and Varnishing

Before varnishing new work it should be sized with two coats. A pennyworth of size will be sufficient to cover several cages. It should be dissolved in a little hot water, and applied with a clean brush, and another coat be added when the first is dry. Then leave it for twelve hours before applying the varnish, which should be put on thinly; two coats are sufficient for any work.

If the Fancier wishes to stain the fronts of his cages to resemble any of the hard woods, he can purchase stain mixed with varnish for the purpose. Should this require a little thinning, methylated spirit must be added carefully. It should be applied somewhat quickly, as it soon evaporates.

Instead of this ready-mixed stain and varnish, I much prefer to use my own home-made stain, size the work, and finish with a coat or two of varnish. An ounce of bichromate of potash may be purchased for a few pence at the chemist's. Dissolve a little of this in hot water, until it is a little darker than the colour required, and apply it with a brush; a second coat may be added if thought necessary.

All brushes used should be thoroughly cleaned in turpentine, and washed in warm water and soap. But if the work is only put by for a few hours, the paint brushes may be put into an empty jam pot with sufficient water in it to cover them, thus preventing them from getting dry and hard.

APPENDIX A.

HINTS ON CAGE MAKING

By W. LASKEY

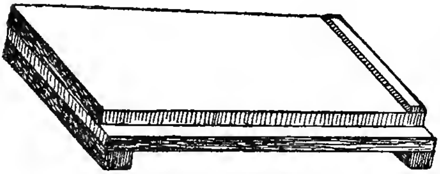
" Every fancier his own cage maker " is an axiom I thoroughly believe in; in fact, I consider a fancier's education is incomplete until he is able to build his cages to his own idea of comfort and usefulness. In expressing this view I am not actuated by any antagonistic feeling to the professional cage-maker, but wish rather to offer a few practical hints to the novice, amateur, and those who desire to try their skill in this direction; neither is it my intention in these remarks to advocate any particular design, knowing as I do the difference of opinion which exists amongst fanciers as to the suitability and usefulness of their own particular pet ideas. Two points, I venture to think, we all agree upon, viz., utility and sanitation, which are strikingly apparent when we compare one of our modern breeding cages, fitted with punched bar soldered removal fronts, glass, and earthenware fittings, with one of the wretched old cages that did duty and was considered the correct thing some twenty-five years since.

The Tools Required

I have at some time or other heard it expressed that an industrious man can have but few vices. Be this as it may, undoubtedly a congenial occupation is an excellent antidote to ennui, and of all the work suitable for home occupation cage-making, I think, must have especial attraction to all lovers of cage birds. Proper tools are a positive necessity in any kind of work we may elect to enter upon, and experience teaches us that certain appliances are indispensable if comfortable working be desired.

The tools required for cage-making are not by any means numerous or expensive, and the capabilities of a small stock are not quickly exhausted. First and foremost comes the bench, which must be of a firm and substantial character. Failing space and ability to erect a proper bench, a very passable substitute can be found in the kitchen table; a tenon saw, a jack-plane for shooting edges, a smoothing-plane for dressing the wood, a square, bradawls, and hammer, also a soldering-iron, wire-cutter, and a pair each of flat and round-nosed pliers for making the fronts of the cages. In addition to these, and the most useful of all, will be found the shooting-board, and cutting gauge, which no fancier should be without for cutting perches; and for the hundred and one other little matters that are continually being wanted in the bird-room they will be found invaluable.

The Indispensable "Shooting" Board

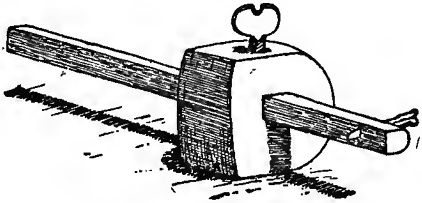


THE "SHOOTING" BOARD.

The construction of the shooting board is very simple, which will be seen by the illustration. Two pieces form the bottom, 1in. thick by 9 wide, 24in. long, and the piece to be laid upon the first two is identical in length and thickness, but 11in. wide. These pieces should be screwed together with edges flush; this will leave about 6in. of the lower board uncovered. The narrower upper board thus forms a bed upon which to place the work, and the uncovered 6in. of the lower board is the pathway upon which the plane travels to and fro. A wood stop is fixed upon the upper board 3in. from the back end, and care must be taken that the stop is perfectly at right angles with the inner edge which will be at the right hand when the shooting-board is in use. To render this appliance thoroughly efficient we must fix upon the underside two fillets across the lower board, and flush with each end, attaching them with screws of the required length; when in use the bottom fillet rests against the edge of the bench.

If these instructions are carefully followed, very little difficulty will be found by the merest novice in knocking up this useful little article, which can be used for planing perfectly square edges upon any work that is placed upon it for that purpose. Thus the jack-plane is laid side down upon the lower board, with its cutting face towards the edge of the upper board; the work to be operated upon is held against the cross top, with the part which requires planing opposed to the iron of the plane, and is firmly held and gradually advanced until the plane, in sliding to and fro, cuts away as much wood as is necessary to render it square and precise.

The Cutting-Gauge and its Uses

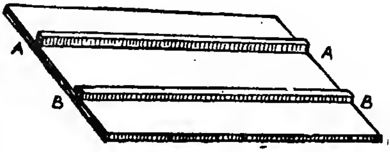


The Cutting Gauge.

It can also be used in conjunction with the cutting - guage. The wood having been planed perfectly square, the cutting-guage is passed up the face of the work. This cuts the board half through; the board is then placed face downwards, and the process repeated on the reverse side, which completes the cut. I have mentioned the length of the shooting-board as being 24 inches, as I have found this the most suitable size for ordinary work, but when longer boards are to be planed the shooting-board must naturally be made longer. The cutting-gauge can be obtained at any ordinary tool-shop or ironmongers, and the illustration will show all the necessary details of its construction, with the exception of the knife. Those furnished with the gauge are of very little use for our purpose, and must be substituted by the blade of an ordinary pocket-knife. Care should be taken not to make the opening too large, and the edge of the blade should be set with a slight outward tendency. It will require a little practice before proficiency is acquired, but when once accomplished it will be found the most useful little appliance amongst the cage-maker's tools.

The professional cage-maker rarely uses a saw, except to make the first cut off the end of a board; the gauge is then set to the required length, and each length is cut perfectly true and to the desired dimensions. Doors, draw-boards, and perches can all be cut accurately, and expeditiously. A gauge with a short handle, as illustrated, will be found the most useful for small work, but for cutting boards for breeding-cages, and other long boards, one with an arm or handle of the required length must be used.

The Making of Wire Fronts

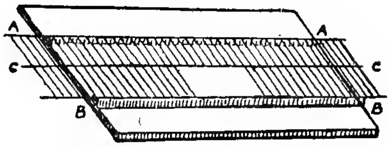


Board for Wire Front.

We have often been asked to give an illustration of a suitable board for making wire fronts on. My mind goes back to the time I attempted my first soldered wire front, about twenty years since. At that time they were practically unknown to the majority of our cage-makers, and the amount of trouble and wasted wire stands out very vividly in my memory. But all that is altered now, with the introduction of punched bar wire of any gauge and straightened wire of any size, which can be obtained of our principal cage-makers and wire workers.

All that is required is a board, as illustrated, to make this branch an easy and pleasant occupation. AA is a narrow piece of wood nailed permanently across the board; BB a corresponding piece that is fixed temporarily, according to the height of the front required; CC is an imaginary line for the centre cross-bar. The wires should be cut the required length and inserted in the punched bar at AA and BB. It will be necessary to solder almost every third wire, in the first instance, to keep them in their proper places.

Preparing the Soldering Iron



A Wire Front in the Making.

The centre cross wire CC can either be a punched bar or an ordinary piece of wire, to which the wires are attached with solder; I prefer the latter, as looking much neater. Any one not used to handling a soldering-iron will most likely find a difficulty in getting the solder to run. The reason of this will most likely be the want of a proper face on the iron. To remedy this the iron should be left in the fire until red hot, and the face well filed down, which can be done with one or two sharp raspings of a coarse file. The iron should then be dipped in the killed spirits of salts, then on the solder, and back into the spirit; you will then have no difficulty in getting the solder to run where you require it.

I must conclude with the old proverb, that "practice makes us wondrous perfect," and I hope that any readers who feel inclined to become their own cage-makers may derive as much pleasure from the occupation as I have done.

APPENDIX II

FOREIGN BIRD KEEPING IN AVIARIES

By WESLEY T. PAGE, F.Z.S., etc.

My out-door was erected by myself, and covers an area of 23ft. by 10ft. It is 16ft. high, and has a lean-to shed, 10ft. by 4ft. (see ground-plan), and is placed in the centre of the back garden. The shed is open entirely at front, save for two 11in. boards, placed equidistant, which will be referred to again. It is also open at either end for a space of 12 inches from the ground, so that the birds can fly right through it.

I may say that, but for my neighbour's rights in the way of "ancient lights," the shed would have been extended right along the back, and it would have been at least 2ft. higher. But as it is, it answers its purpose admirably, and has been to me, both in summer and winter, a continuous source of pleasure and interest. It cost me for material, that is, wood, nails, ½in. netting, paint, etc., as near as I can figure it up, £5; as already intimated, the labour I supplied myself.

The shed is of match-boarding and 2in. square quartering. The roof is covered with felt, and slopes into the aviary, but is blocked out, so that the birds cannot get on top of it, as in that position they would be at the mercy of the cats. I may say I attempted no fancy design, my only object being to enclose the space in as unobtrusive a manner as possible. To bring this about there is used no bright paint; the wire netting and the quartering of the roof have been tarred, and the front framing and wirework have been coated with Brunswick black. In the summer, at any rate, the effect is all that could be desired.

The framing of the flight is made of 2in. by 1in. quartering. Along the front of the flight there should be a 12in. board; while boards, or better still, wire netting, should also be carried 18in. below the ground level, so as to keep out vermin. I may say that a most fascinating aviary need not cost much, and, though it may not be of fancy design, need not be ugly.

Furnishings

These consist of a number of self-feeding seed hoppers; an enamelled iron dish for soft food; earthenware water-hopper, holding a quart, and of the type which prevents the birds polluting its contents; bath, an ordinary glazed earthenware sink, sunk to ground level, with a dummy well under same. The waste-hole to the bath has a cork bung containing a waste pipe, which permits only a three-inch depth of water, and the bottom of the bath is covered with stones of various sizes, so that a small Waxbill can bathe as safely as a Cockatiel or Thrush. On the floor of the shed there is gravel to a depth of three inches. On this is strewn regularly " bird grit." It is raked over weekly, and renewed quarterly.

The shed is well furnished with branches fixed close against the roof, and round the back and sides. Amongst these are fixed husks and nest boxes; a number of the latter, with waterproof tops, are also placed round the flight. Further, I have two tiers of nest boxes or shelters, made so: I obtained two 11in. boards, and fixed these from ground to roof of the front of the shed, equidistant one from the other. To these were screwed on the inside a number of boxes (in my case Hudson's dry-soap powder boxes), commencing six inches from the ground, and carried one on the top of the other to the roof. The lids, after having suitable sized holes cut away, were simply tacked down, and thus could be readily let down at any time for cleaning purposes. These tiers of nest boxes supplied the birds both with a number of cosy winter shelters and private nesting places during the breeding season. I may say that all interior standards are stout natural branches, with their bark on.

Plants and Bushes

In my case gooseberry bushes, old and overgrown ones, were there when I enclosed the space. To these I added two or three privet bushes. Among these bushes are growing now the small perennial sunflowers, rudbeckia, golden rod, wheat, oats, meadow grass, nettles, groundsel, etc., making a thick jungle, and supplying nearly all the green food necessary, though I give the birds a regular supply of same so as to save the growing bushes as much as I possibly can. The effect of this arrangement is very fine, almost tropical.

Foods

Seeds.—Canary, white and spray millet, and dove mixture. Of these there is always a supply in the various hoppers. At intervals, according to season, I scatter on the floor of the aviary sunflower seed, hemp, blue maw, oats, and summer rape. The last-named is not eaten to any extent, but it springs up and the birds take it as green food. With cuttlefish bone, and grit, I am rather lavish, as I consider them both very important and beneficial items.

Soft Food.—After experimenting with various soft-food mixtures, I find the following one of the best. It keeps well, does not turn sour even in very hot weather, and is very nourishing. Take of partridge or game meal, ants' cocoons, dried flies, boiled potato, and stale household breadcrumbs, equal parts; make crumbly moist, and then add a liberal sprinkling of grocers' currants.

If you have to cater for the delicate and exclusively insectivorous birds, put in a double portion of ants' cocoons, and moisten the food with about a teaspoonful of Liebigs Extract of Meat. For the frugivorous birds add to the above mixture an equal bulk of minced banana, apple, pear, split grapes, etc., as in season.

Fruit.—In an aviary containing a mixed series of birds, a supply of ripe fruit is not only a wholesome addition to the diet, but quite necessary to the well-being of some of the species. Banana, sweet water grapes, orange, apple, pear, figs, dates, etc., according to season, may be offered. Fruit must be given only in a fully ripe condition.

Green Food.—In such an aviary the birds eat a lot of the growing stuff, but I always supply flowering grass, dandelion, and groundsel heads in abundance during the summer, and in winter tender French lettuce.

The Birds

It is really best to confine the aviary to birds of similar size and strength. Yet many bird-lovers find this impossible, and they mix all sizes and all kinds. But it must be confessed annoying losses often occur by reason of this, through a bird suddenly running "amok," whose previous behaviour has been most exemplary. However, as this also occurs when birds of a similar size only are kept together, if a regular and observant watch be kept upon the different individuals the losses are not very great—in fact, are few and far between.

At the same time, in naming the birds I am at present keeping in the aviary, I must disclaim all responsibility for risks involved, as risks there are, and occasionally most annoying losses too. But, as already stated, if careful note of individual dispositions be kept, such should occur but seldom.

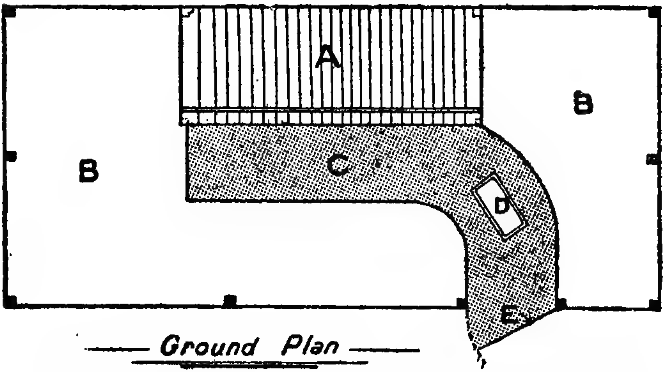
The birds in my aviary are, roughly, as follows :—Diamond and Greenwing Doves, Cockatiels, Yellow and Green Budgerigars, six species of Weavers, Grey and Green Cardinals, Indian Ouzel, Mannikins in variety, Gouldian, Pectoral, Chestnut, Zebra, and other Grassfinches, Nonpariel, and other Buntings.

Of course, where such a mixture is tried, there must be no attempt at crowding. In the aviary herein described is hygienic accommodation for 150 birds at least, but I seldom keep more than fifty in the same, and I must emphatically state that were one to attempt to keep a hundred it would almost certainly lead to disaster.

Strict Cleanliness

This consists of a periodical turning over of the soil of the jungle portion, the renewal of branches which have become foul, a weekly raking over of the sand bed and all hard surfaces, and the scraping up of the remains of grit. It is a most unsafe practice to sift grit, etc., and use it over again. It is false economy, also unsanitary, and yet many adopt this plan. The practice is responsible for many deaths, I am assured.

At the regular cleaning day, let all surface material, grit, etc., be cleared out and thrown away—except only in the case of fouled seed, which can be sown and will produce green food. The shed should have an annual distempering.



A Lean-to Shed Open at Front. BB Jungle of Woods and Bushes. C Gravel Path. D Glazed Sink as Bath. E Entrance Door.

Of course, if space could be spared, the aviary described would be much improved by having a shed (closed around) attached, one side of which should be all glass, save for the bottom eighteen inches of same. By this means the more delicate foreigners could be kept, and shut inside during exceptionally severe weather, or only let out for a fly at mid-day.

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